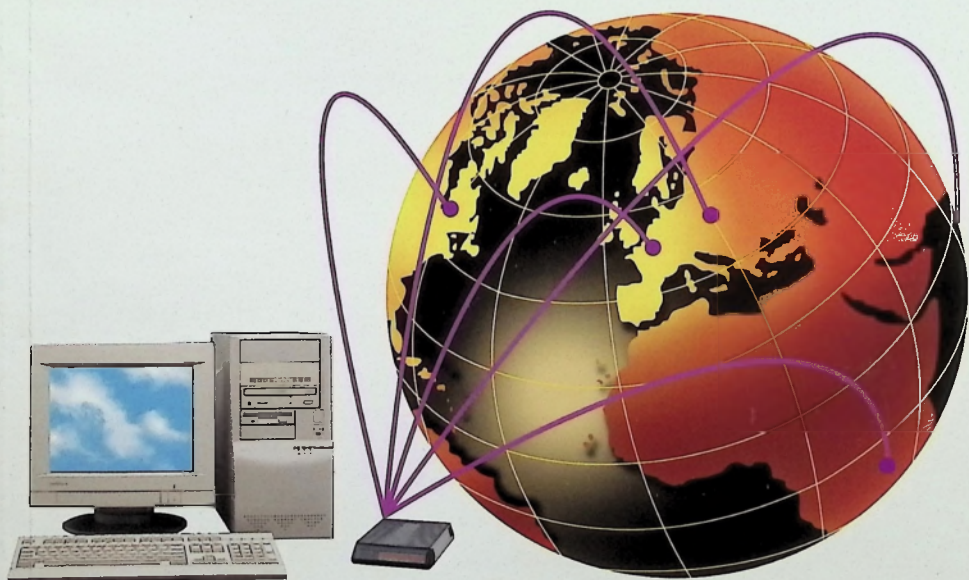


QmodemPro

for Windows® 95
VERSION 2



SCRIPT GUIDE

The Premier Communications Solution for Windows® 95

SLIQ

*Script Language Interface for
QmodemPro for Windows 95*

(7/7/95 printing)

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Script Language Interface for

QmodemPro for Windows 95

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About This Guide

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Chapter 1 provides an overview of SLIQ.

Chapter 2 contains a complete list of SLIQ commands and is designed to be used as a reference. This chapter also contains complete information on using dialog boxes and external DLL functions.

Chapter 3 helps you put the information from the previous chapters to work by providing specific examples of script source code.

Chapter 4 documents error codes and the use of the script debugger.

We have provided an appendix with reference charts and information to help you with internal data structures.

Getting additional information

In addition to the information in this guide there are numerous sources for help and training on the BASIC programming language, the underlying language of SLIQ. Your favorite bookstore or computer user group can be an invaluable source of help. Look for a tutor on the BASIC implementation used by Quick Basic from Microsoft and you will be on the right track.



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1 - Introduction

*In creating, the only hard thing's to begin;
A grass blade's no easier to make than an oak.*

James Russell Lowell



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Getting Started

What is a script?

A script program is a set of instructions that you give *QmodemPro for Windows 95* that tells it how to perform a particular task. Its structure and syntax is similar in many ways to the popular Basic programming language, but you don't need to be a programmer to make use of SLIQ scripts.

Depending on the complexity of its construction, a SLIQ script can be thought of as a command shortcut, a macro or a computer program. Scripts are an ideal way to automate repetitive tasks, but can also be used to create custom options for the flow of your telecommunications activity. A SLIQ script can make use of *QmodemPro for Windows 95* program functions as well as internal functions within Windows 95 itself.

SLIQ scripts are composed of lines of text that represent the activities to be performed. It's a compiled script language, meaning that the text representation of the script is converted to a binary file when it is complete. Compiling scripts not only allows them to execute faster, but lets you distribute executable copies of your scripts without the underlying text source code.

For the large majority of *QmodemPro for Windows 95* users, script usage will be limited to grouping a sequence of tasks into a single command, usually by using the Quicklearn feature. Quicklearn, as you'll see later, provides an interface to SLIQ that is as easy to use as a tape recorder; you just turn it on and it records your task for playback at a later time.

What can I do with a script?

SLIQ provides the means of performing almost any telecommunications activity desired.



Automated logon

While the steps to connect to various on-line services, host computers and BBS systems are very straightforward in *QmodemPro for Windows 95*, each host has its own procedures for getting your name, password and other information. Automation of this process is probably the most common application for a script program. It is also the one that lends itself best to the QuickLearn feature since it is repetitive in nature.

File transfers

Automating the process of downloading files from a remote system is another application where scripts are handy. Although the QuickLearn feature can also be used for this type of activity, it may require modification to control the desired download directories or other download parameters.

Fully automated sessions

Combining the two previous examples you can see that a more complex script is capable of logging on to a remote system, downloading files and perhaps additional activity such as retrieving new messages. Any activity that can be performed manually with *QmodemPro for Windows 95* can be automated using SLIQ.

Unattended *QmodemPro for Windows 95* operations

Perhaps the best example of an unattended script is the *QmodemPro for Windows 95* host mode. The functionality of host mode is discussed in the User Guide, but the actual operation of host mode is driven by a series of pre-written scripts that are included with *QmodemPro for Windows 95*. These scripts and several others will be used as examples as we explore the power of SLIQ.

Design elements

As indicated earlier, SLIQ is patterned after the BASIC programming language. This decision is based on the desire to incorporate a number



of advanced programming structures and concepts, while appealing to the largest audience. If you are familiar with BASIC you will be accustomed to many aspects of SLIQ. There will be some new commands specific to *QmodemPro for Windows 95* but you should feel very comfortable with writing and editing scripts.

If you aren't yet familiar with BASIC we encourage you to give SLIQ a try. BASIC was designed to be fairly easy to learn, and with the help of a book or two on BASIC you may be well on the way to writing very productive scripts. There are many excellent reference and training books on the BASIC language at your local bookstore or user group library. It is beyond the scope of this manual to actually teach the BASIC language, and we admit that we make little effort to do so in this documentation.

SLIQ scripts must be compiled to an executable format before they can be used. Compiled scripts are advantageous because they execute faster than interpreted scripts and allow the author to keep the script source code confidential. If an attempt is made to execute a script before it has been compiled, the compiler is automatically invoked by the program. Once compiled, either manually or automatically, a script is executed immediately when requested.

Scripts are stored in the directory specified for script files which is selected with the menu choice **Tools/Options/Paths**. SLIQ files use standard WINDOWS 95 filenames with two different extensions. The source script files created with your editor uses the extension **.QSC** and when they are compiled into an executable form by SLIQ they are given the extension **.QSX**.

Script files are created and modified using any standard ASCII text editor. *QmodemPro for Windows 95* includes an internal editor that you access from the menu choices **Scripts/Edit** or **Tools/Editor**. The internal editor supports auto-indent and tabs for structuring your script source files in a readable format, however you are free to use an external editor or programming environment if desired.





How are scripts created?

The QuickLearn feature

The *QmodemPro for Windows 95* script language can be used for many applications without the need to learn anything about scripting or SLIQ. QuickLearn lets you to record keystrokes for playback at a later time and is a simple process.

The first way of starting a QuickLearn script is to revise a Phonebook entry and place the name of a new script in the Scripts field. The next time you dial this entry, *QmodemPro for Windows 95* will automatically record a script file.

The second way to create a QuickLearn script is to use the pull down menu choice **Scripts/QuickLearn** to begin recording a script.

When activated, *QmodemPro for Windows 95* displays the standard file selection dialog and request a name for the script to be created. All scripts should be saved in the directory designated for scripts which by default is C:\QMWIN95\SCRIPTS. If your configuration is different you should save your scripts in the correct script directory.

Any valid WINDOWS 95 filename may be used and the extension must be **.QSC**. This extension is automatically added when script names are specified in the script filename dialog box.

Once a filename is selected you are returned to terminal mode and every keystroke is recorded until QuickLearn mode is terminated by again selecting the **Scripts/QuickLearn** menu choice. While recording is active the terminal window status line displays the name of the script preceded by the "greater than" symbol (>) indicating that recording is active. In addition, a check mark is placed in front of the QuickLearn menu option.

Scripts created using QuickLearn can be viewed and edited just as any other script. The menu choice **Scripts/Edit** can be used to take a look at the scripts created with SLIQ's QuickLearn feature.



While QuickLearn is an extremely convenient facility, it has its limitations. QuickLearn can record your interactions with a remote computer and replicate them exactly, but it cannot add decision-making logic to the scripts it creates, or account for unexpected or changing conditions. When you run out of QuickLearn power, it's time to write or edit your own scripts.

Script programming

Writing a new script from the ground up is a necessity in some cases. Any standard ASCII text editor can be used to create or modify a SLIQ script, including the *QmodemPro for Windows 95* internal editor.

To create a new script select the menu choice **Scripts/Edit** to display the standard file selection dialog box. The default directory in the dialog will display files in your scripts directory as defined in **Tools/Options/Paths**, and the default extension will be **.QSC**. Create a new script file by entering the name of the script to be created. It is not necessary to add the script extension **.QSC** since it is added automatically when the **Scripts/Edit** menu command is used to create a script file. Note that the alternate method of invoking the editor, using the menu choice **Tools/Editor/Edit a File** does *not* automatically add the extension **.QSC**.

To edit a SLIQ script use the same procedure as creating a new script, but select the desired script from the dialog box.

Compiling a script

SLIQ is a compiled language. This means that the text of every **.QSC** text file is converted to executable code before being used by *QmodemPro for Windows 95*. Script source files (those ending in **.QSC**) are compiled either automatically or manually.

After creating a SLIQ script file you can manually perform a compile by selecting the **Scripts/Compile** menu choice. The compile process will read your script, check each line for proper syntax and create an executable **.QSX** file with the same name as the source file. If any errors are encountered the compile process will stop with a compile error message



and invoke the editor. The editor cursor will be located as near the error as possible, enabling you to make the necessary changes. A complete list of compiler error messages can be found in the sections **Compiler Errors** and **Script Debugging**, later in this manual.

If a script has been created or modified but not yet compiled when a request to execute is received, the compile process is automatically invoked. The compile process may take a few seconds to several minutes depending on the size and complexity of the script.

Debugging a script

Regardless of the simplicity of a script or the capabilities of the programmer, scripts are seldom written perfectly on the first attempt. Many times an error is simply a typographical mistake or improper syntax for a command. In these cases the errors are caught during the compile cycle and the editor cursor is placed at the approximate location of the error in the script source. This type of error is usually relatively easy to correct.

The harder type of error to locate and correct involves a script that follows correct syntax and compile guidelines, but fails to produce the desired results. In this case the script debugger is an invaluable tool. The debugger allows you to execute a script line-by-line while viewing the results. It can skip sections of code and even display the changing value of variables as each line is executed.

The operation of the debugger is discussed in its own section after the SLIQ language documentation. See the **Compiler Errors** section under **Debugging** for details.

Running a script

Scripts can be executed in several different ways:

1. Scripts can be started with the menu command **Scripts/Execute**. When this option is used, you can select either the **.QSC** or **.QSX** filename for the desired script if both exist. If only the **.QSC** source



filename exists, the script will be compiled to a **.QSX** file before execution.

2. Scripts can be executed by clicking on the toolbar button labeled **Execute Script**. This action displays the same dialog box that is called when the **Scripts/Execute** command is selected.
3. Scripts can be started automatically every time a Phonebook entry is dialed. A script name is associated with a specific dialing directory entry in the *Script* field for entries in the *QmodemPro for Windows 95* Phonebook. When connection is made, the script is executed automatically. These types of scripts are often referred to as *linked scripts* because they're linked to phonebook entries. The same script can be tied to multiple Phonebook entries, and can be used to take control immediately after a connection to automate repetitive logon processes. Linked scripts that automate logon activities are also called *logon scripts*.
4. Scripts can be started by clicking a macro key on the macro bar at the bottom of the screen that has been assigned to a script name using the **@SCRIPT** macro command. Once started, macro-linked scripts operate the same as a script executed from the pull-down menu.
5. Scripts can be executed immediately when *QmodemPro for Windows 95* is started. The command line syntax for launching *QmodemPro for Windows 95* with a script is:

```
QMWIN95 FILENAME.QSX
```

or

```
QMWIN95 FILENAME.QSC
```

which will cause a compile if needed.

Once initialization is complete, *QmodemPro for Windows 95* will load and execute the script specified on the command line.

Script extensions **.QSX** and **.QSC** were automatically registered with Windows 95 when *QmodemPro for Windows 95* was installed. This



association allows you to double-click on the script file name within Explorer to launch *QmodemPro for Windows 95* with the selected script as a command line argument.

Regardless of how a script is invoked, it operates in the same manner. The Script icon on the toolbar is displayed in a depressed position during script execution and the terminal windows status line displays the name of the script being run.

Stopping a script

You can stop a script at any time in several ways. The easiest is to click on the **Script** icon on the toolbar. A confirmation prompt dialog box is displayed before execution is terminated.

You can also toggle the menu selection **Scripts/Execute** to stop a script. This menu item displays a check mark during execution, which is removed after confirming that you want to stop the script.



The Script Editor

QmodemPro for Windows 95 has a simple built-in text editor, suitable for writing and editing scripts. The Editor can also be used as a stand alone program and can be opened without running *QmodemPro*. You can also use the Scripts Editor, a special version of the Editor designed to give you more flexibility in creating and editing scripts.

To open the *QmodemPro for Windows 95* Editor in Script mode, choose **Scripts/Edit** from the main menu. Another way to open the Script Editor is from a command line. Click **Start** and select **Run**. Type

```
C:\QMEDITOR /SCRIPT
```

in the command line to open the Script Editor. The command line argument `/SCRIPT` opens the Editor in Script mode, using syntax highlighting and all other script-specific choices to the menus.

The Script Editor is similar to the Text Editor described in the *QmodemPro for Windows 95* Users Guide. This section deals specifically with the features and options used by the Script Editor. Refer to the section on The Editor in Chapter 4 of your Users Guide for details about text editing.

Creating a Script Editor Shortcut

To create a desktop shortcut to the Script Editor, you must first create a shortcut to the Editor. In Explorer, find **QMEDITOR.EXE**, click the right mouse button and drag it to the desktop. Release the mouse button and select **Create Shortcut(s) Here**. Click the right mouse button again and select **Rename**. Rename the shortcut with something appropriate (like **ScriptEditor**). Click the right mouse button again, and select **Properties**. In the Target line of the Shortcut property sheet, the path for the Editor will be shown. Add the text

```
/script
```

(a space, forward slash, and the word "script") to the end of the command line, and click OK.



Icon Shortcuts

Qmodem Pro for Windows 95 uses common toolbar icons to shortcut to many common functions, such as cut, paste, copy, print, and save. One additional icon that has been added is the Compile icon.




The Compile icon starts the compiler from the current window.

Menu commands

Compile

The Script Editor has a **Compile** command list in the main command menu that is not used in the normal Text Editor.

Compile

Compiles the source file. If multiple scripts are being edited simultaneously, the Compile command (and the Compile icon) will begin the compile from the primary file. The Compile command can also be started by pressing .

Primary File

This command allows you to define the primary file. When you select this command, the Open dialog box pops up. Once you have defined your primary file, the file you defined will appear beside the **Primary file** command on the menu list.

Clear Primary File

Removes the primary file name from Compile. This frees **Primary File** and allows you to redefine another file as the primary source file.

Edit

If you are compiling a script and an error is found, the error number and string will appear on the statusbar of the Script Editor.



Find Error

If your scripts has failed, use the **Edit/Find Error** command. A dialog box requesting an error number pops up. Type in the address that the error reported. Your cursor will be moved to the error location in the source file.

View

Use the Script editor's View menu to change the look of the Editor.

View/Options/Colors is designed to let you set colors for syntax highlighting. You can select different colors for normal text, comments, keywords, numbers, symbols, and strings.

Set Color For

Allows you to choose the type of text to be highlighted. You can choose different color settings for syntax types: normal text, comments, keywords, numbers, symbols, and strings.

Text Color

Sets the color of the selected syntax type.

Background color

Sets the color of the background surrounding the selected syntax type.

Reset

Clicking the Reset button returns syntax highlighting (color changes) for a specified type of text to the default color settings.

Reset All

This resets all of the syntax highlighting settings to the default settings.



Sample Text

This box previews color and syntax highlighting changes you have made before you accept your choices.

Cancel

Cancel allows you to cancel changes. When you select **Cancel**, the property sheet closes and you are returned to the Editor.



A Technical Overview of SLIQ

General Program Information

Every variation of BASIC is slightly different, and SLIQ is no exception. This section provides information about the various items that make up SLIQ and how they operate. It only deals with the underlying operational characteristics of the language, not the command set. The entire set of SLIQ commands are discussed in the chapter that follows.

Tokens

Tokens are the smallest meaningful units of text in a *QmodemPro* for Windows 95 script program. There are five kinds of tokens: special symbols, numbers, keywords, identifiers, and string constants.

Special Symbols

Besides letters, numbers, and spaces, SLIQ accepts the following special characters and pairs of characters:

+ - * / = < > . , () : ; ' " <= >= <>

Numbers

SLIQ accepts numbers in ordinary decimal format. Hexadecimal numbers are represented using 0x or &H as a prefix to the number. Engineering notation (e or E, followed by an exponent) is read as "times ten to the power of" in real numbers. For example, 7E-2 means 7×10^{-2} .

Keywords

Keywords appear in lower case typewriter font throughout this section. The following is a complete list of SLIQ keywords:

```
access alias all and append as binary byval call caption case
catch close const declare dial dialog dialogbox dim div do
else elseif end eqv exit flush font for function get gosub
goto if imp include input is len let lib lock loop mid mod
name next not open or output print put random read receive
rem return seek select send shared static step sub then to
type unlock until wend when while write xor
```



These keywords cannot be used as identifiers. Since SLIQ is not case sensitive, these keywords may appear in any combination of upper or lower case in your scripts.

Identifiers

Identifiers denote constants, types, variables, subroutines, functions, and fields in user defined types. An identifier can be of any length, but shorter identifiers are usually easier to manage. An identifier must begin with a letter and can not contain spaces. Letters, digits, and underscore characters are allowed after the first character. Like keywords, identifiers are not case sensitive.

String Constants

A character string is a sequence of zero or more characters from the extended ASCII character set, written on one line in the program and enclosed by double quote characters ("). Case is significant in string constants; "Hello" is a different string from "HELLO".

Comments

Comments consist of text the compiler should ignore, but are useful for annotating your SLIQ programs. Comments are preceded by either the `rem` statement, a double forward slash (//) or the `'` character (single apostrophe).

Note that `rem` is treated as a regular statement, so if you want to place a comment at the end of a line using `rem`, you must precede the `rem` by a colon to separate it from the previous statement. The single apostrophe can be used without the need for a separating colon:

```
print "Hello world!"    'comment OK
print "Hello world!"    :rem comment OK
```

Note that the first needs no colon while the second does.



Constants

A constant is an identifier that represents a value that can't change. A constant is declared in a SLIQ program like this:

```
const Tries = 10
```

This declaration causes the value 10 to be substituted wherever the identifier `Tries` appears in the program. You can also define constants in terms of other constants using expressions, like this:

```
const LookingBad = Tries - 3
```

This will cause the value 7 to be used wherever `LookingBad` appears in the program.

Types

SLIQ is a typed language, which means that each variable or expression has an associated type. This type defines the kind and size of values that the variable can hold, as well as the operations that can be performed on that variable. The following identifiers represent the predefined types in the language:

```
byte
short
integer (or long)
real
string
```

Simple types

There are five simple types whose characteristics are shown in the following table:

| Type | Range | Format |
|----------------|---------------------------------|-----------------|
| byte | 0 to 255 | 8 bit unsigned |
| short | -32768 to 32767 | 16 bit signed |
| integer (long) | -2147483648 to 214783647 | 32 bit signed |
| real | 1.5e-45 to 3.4e38 | 32 bit IEEE |
| string | 0 to 32767 characters in length | variable length |



Strings can also be declared to be of fixed length, which means that they always hold a specific number of characters (even if those characters are just spaces). Here is an example of a declaration of a string of length 30:

```
dim name as string*30
```

In this case name will always hold exactly 30 characters. Fixed length strings are particularly useful in user defined types (see below) because variable length strings are not permitted in a user defined type declaration.

Arrays

Arrays are sequences of values, all of which have the same type. For example, the following code declares an array of 10 integers:

```
dim a(10) as integer
```

Actually, there are 11 integers declared here; they are referenced as a(0), a(1), through a(10). The type of elements in an array can be of any type except another array.

User Defined Types

A user defined type is a type that holds more than one value. Unlike an array, the values that a user defined type holds can be of different types. For example, here is a user defined type that can be used to hold a date value:

```
type date
  year as integer
  month as integer
  day as integer
end type
```

In this example all the fields are of the same type. Here is another example that could be used to hold a person's information:

```
type person
  name as string*50
  phone as string*20
  birthdate as date
end type
```



Note that the date type declared above can be used inside another type declaration. User defined types can be nested in this way as many levels deep as necessary.

Dialog Box Types

SLIQ supports Windows 95 dialog boxes using a mechanism similar to user defined types. For information on declaring and using dialog boxes, see the separate section on Dialog Boxes at the end of chapter 2.

Variables

A variable is an identifier that represents a value that can change. A variable is declared in a SLIQ program like this:

```
dim count as integer
```

The word "count" can then be used in any expression where an integer is accepted. To declare an array of values, place the number of values you want to declare in parentheses after the variable identifier. For example,

```
dim friends(10) as string
```

This causes friends[0] through friends[10] to be declared. Declaring a user defined type works the same way:

```
dim bob as person
bob.name = "Bob Smith"
bob.phone = "555-1212"
bob.birthdate.year = 1963
bob.birthdate.month = 4
bob.birthdate.day = 17
```

The above statements also assign values to each of bob's fields. As you can see, we have built upon our previous examples to create a personal record.

Expressions

Expressions are made up of operators and operands. Most operators are binary and take two operands. Two operators are unary and only take



one operand. Binary operators use the usual algebraic form (for example, $A + B$). A unary operator always precedes its operand (for example, $-B$). There are two unary operators, `not` and `-`. `Not` is a bitwise logical not of its operand, and `-` takes the negative of its operand. The following is a list of the binary operators in SLIQ, in order of precedence from highest to lowest:

| Operator | Notes |
|--|---|
| <code>^</code> | exponentiation |
| <code>*</code> <code>/</code> <code>\</code> <code>mod</code> | multiplication, division, integer division or same as, modulus |
| <code>+</code> <code>-</code> | addition, subtraction |
| <code>=</code> <code><></code> <code><</code> <code><=</code> <code>></code> <code>>=</code> | equality and inequality operators |
| <code>and</code> | bitwise logical and |
| <code>or</code> | bitwise logical or |
| <code>xor</code> <code>eqv</code> | exclusive or, equivalence ($(x \text{ eqv } y) = \text{not } (x \text{ xor } y)$) |
| <code>imp</code> | implication, ($(x \text{ imp } y) = ((\text{not } a) \text{ or } b)$) |

Parentheses are used to modify the above precedence order. Expressions within parentheses are always evaluated starting with the innermost set of parentheses. For example,

| Expression | Notes |
|--------------------|---|
| $3 + 4 * 5 = 23$ | (multiplication takes precedence over addition) |
| $(3 + 4) * 5 = 35$ | |



Functions are called by naming the function to call, perhaps followed by a parameter list in parentheses after the function name. For example, if `s` is a string,

```
len(s)
```

is an integer type expression equal to the length of the string `s`.

Statements

Statements are commands that tell SLIQ what to do. Statements can be broken into two major classes — those that control the execution of other statements and those that don't.

Simple statements stand by themselves and don't control the execution of other statements. A simple statement is our first example:

```
print "Hello world!"
```

Compound statements directly control the execution of other statements. Each type of compound statement is described in the following sections:

Single line if statement

The simplest sort of compound statement is the single-line if statement:

```
if x = 5 then print "x is five"
```

This causes the print statement to be executed only if `x` currently has the value 5. If `x` does not have the value 5, then the print statement is skipped.



Multiple line if statement

If statements can also span multiple lines, as in this example:

```
if x = 5 then
  print "x is five"
  x = x + 1
  print "x is now six"
end if
```

The style of indenting the lines that are controlled by the if statement is not required, but it makes the program easier to read. You will see this style in each of the following compound statement examples. If statements can also have an else directive:

```
if x >= 1 and x <= 10 then
  print "x is between 1 and 10"
else
  print "x is less than 1 or greater than 10"
end if
```

Finally, if statements can have an "elseif" clause, which helps make certain constructs easier to write (see the select case statement below for another approach):

```
if x >= 1 and x <= 10 then
  print "x is between 1 and 10"
elseif x > 10 then
  print "x is greater than 10"
else
  print "x is less than 1"
end if
```



Loop statement

The loop compound statement comes in four flavors which differ in when and how the condition to exit the loop is tested. In general, the loop statement will repetitively execute a group of statements until a particular condition is met. For example,

```
x = 1
do while x <= 5
    print "x is "; x
    x = x + 1
loop
```

This is what is called a top-tested loop — the condition is tested at the top of the loop before any of the statements inside the loop are executed. In this case the loop will be executed five times — once for each value of x from 1 to 5. The other kind of top-tested loop is shown below:

```
x = 1
do until x > 5
    print "x is "; x
    x = x + 1
loop
```

The above example functions exactly the same as the first, the difference is the kind of test that is performed to see whether the loop should exit.

Bottom-tested loops work in a similar way, except that the test to see whether the loop should exit occurs after all the statements in the loop. The statements in a bottom-tested loop are always executed at least once (in a top-tested loop the statements may not be executed at all).

```
x = 1
do
    print "x is "; x
    x = x + 1
loop while x <= 5
```



```
                                or
x = 1
do
  print "x is "; x
  x = x + 1
loop until x > 5
```

An alternate form of the top-tested while loop is shown below:

```
x = 1
while x <= 5
  print "x is "; x
  x = x + 1
wend
```

Select case statement

The select case statement is a convenient way of testing a number of similar conditions. For example, the following statement tests the value of a variable x:

```
select case x
  case 1
    print "x is 1"
  case 2 to 5
    print "x is between 2 and 5"
  case is > 10
    print "x is greater than 10"
  case else
    print "x is less than 1 or between 6 and 10"
end case
```

There are several different types of cases that can be tested: single value, range of values, and a relation. An example of each is shown in the above code example. A single case value matches if the case variable is exactly the same as the value given. A range case checks the case variable against the given values to see whether it is within the given range including the endpoints. In the above example, x would be tested as "x >= 2 and x <= 5". A relation case is denoted by the keyword *is*, followed by a binary operator, followed by a value. The keyword *is* is replaced by the case variable (x in the above example) and the



relation is checked. The `case else` clause is executed if none of the above conditions match.

For statement

The `for` loop is a convenient way of performing a task a number of times, particularly when the number of iterations is known beforehand. For example:

```
for i = 1 to 10
  print "i is "; i
next i
```

In a `for` loop, the control variable (`i` in the above case) can be either increasing or decreasing. You may also specify a step value if you want the control variable to change by a value other than one. Here is a loop that prints the odd numbers from 9 to 1 backwards:

```
for i = 9 to 1 step -2
  print i
next
```

In the next statement that ends a `for` loop, it is not necessary to name the control variable as in the above example. If the control variable is specified it must match the most recent `for` loop. For example, the following is illegal:

```
for i = 1 to 5
  for j = 1 to 10
    print i, j
  next i          ' error, i not last loop
next j            ' j invalid here as well
```

When statement

The `when` statement is a structured way of executing statements at the time a particular event occurs. There are a number of different events which can trigger a `when` statement:

- a time duration has elapsed
- a certain time of day occurs
- a sequence of characters is received from the communications port



The structure of a when statement is very much like the structure of an if statement. For example,

```
when match "press enter" do
  send
end when
```

This will cause the send statement to be executed whenever the characters "press enter" are received from the communications port. A when statement remains active and can be triggered again until it is explicitly cleared with a clear when statement.



Subroutines and Functions

Subroutines and functions can be declared to help perform repetitive tasks. Here is a simple subroutine declaration:

```
sub test
  print "in sub test"
end sub
```

This subroutine can be called in one of two ways:

```
test
call test
```

The call keyword is optional here. Arguments can also be passed to functions, for example:

```
sub test(a as integer, b as integer)
  print "the sum of "; a; " and "; b; " is "; a+b
end sub

call test(1, 2)
call test(6, 11)
test (3, 4)
```

The output of this program is:

```
the sum of 1 and 2 is 3
the sum of 6 and 11 is 17
the sum of 3 and 4 is 7
```

Parameters are normally passed by reference, which means that if a subroutine changes the value of a variable, the change will be reflected in the variable which was used in the original parameter list. There are two exceptions to this rule. The first is when an expression is passed to a procedure. For example,



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```
sub bump(a as integer)
  a = a + 1
end sub
```

```
dim x as integer
x = 3
print x
bump x
print x
bump x+1
print x
```

The output of this program is 3, 4, 4, 4. In the first call to bump, x is actually incremented because it is directly passed to the variable a in the bump subroutine. In the second call to bump, x is not incremented because it is not directly passed to the subroutine — x+1 is passed instead.

The second exception to the pass-by reference rule occurs when the BYVAL keyword is used. Refer to the BYVAL keyword for information and examples.

Functions are similar to procedures, except that they always return a value and this return value can be used in expressions. For example,

```
function f(a as integer, b as integer)
  f = a * b
end function
```

This declares a function which multiplies its arguments and returns their product. It can be used like this:

```
print f(5, 6)
x = y + f(z, w)
```

The first line prints the value 30, and the second line will first multiply z and w, then add that to y, and assign the result to x.



2 - Script Commands

*No profit grows where no pleasure ta'en;
In brief, sir, study what you most affect.*

William Shakespeare



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Script Command Reference

The following pages contain a complete description of all available *QmodemPro for Windows 95* script commands. Script commands are presented in the following format:

Script Command

A brief description of the command.

Syntax

A description of the command's syntax.

Remarks

A more detailed description of the command, including parameters and their meaning, and how the command interacts with the rest of the script and the system in general.

See also

Related script commands.

Example

Most examples will be a complete script program that you can type in and run.



+ (Concatenation) Operator

Concatenates (combines) two or more strings into one string.

Syntax

```
string1 + string2 [+ string3 ...]
```

Remarks

This operator is used to combine strings into a single, longer string. For instance, you can concatenate DATE and TIME variables into a single string variable called NOW (see example).

No spaces or other characters are placed between the strings during concatenation.

See also

LEFT, MID, RIGHT

Example

This example combines the current date and time strings into one string called now, and prints it on the screen.

```
dim now as string  
now = date + " " + time  
print now
```



\$INCLUDE Directive

Includes another source file into the current source file.

Syntax

```
'$INCLUDE 'filename'
```

Remarks

The \$INCLUDE directive is an instruction to the script compiler to include the named script file into the current file. This is useful if you have a standard set of subroutines and functions that you want to share between multiple scripts.

Example

```
[in file a.scr]
'$include 'b.scr'
call test
```

```
[in file b.scr]
sub test
    print "Hello, world!"
end sub
```



ABS Function

Returns the absolute value of a numeric expression.

Syntax

ABS (*number*)

Remarks

number can be any valid numeric expression.

The absolute value of a number is the quantity of the number without regard for its sign (positive or negative). A negative number has the same absolute value as the corresponding positive number. In other words,

$\text{abs}(x) = x$ if x is positive

$\text{abs}(x) = -x$ if x is negative

See also

SGN

Example

This example shows how two different numbers can have the same absolute value.

```
dim i as integer, j as integer
i = 5
j = -5
if abs(i) = abs(j) then
  print "i and j have the same absolute value"
end if
```



ACTIVATE Statement

Used to make *QmodemPro for Windows 95* the active application on the Windows 95 desktop.

Syntax

ACTIVATE

Remarks

This command will also restore the *QmodemPro for Windows 95* window if it is currently minimized.

See also

MINIMIZE, MAXIMIZE, MOVE, SIZE

Example

This example minimizes the *QmodemPro for Windows 95* window, waits for the string "connect" from the modem, then reactivates the application.

```
minimize  
waitfor "connect"  
activate
```



ADDLFTOCR Function

Used to get or set the current state of the "AddLFtoCR" toggle.

Syntax

`ADDLFTOCR`

or

`ADDLFTOCR (onoff)`

Remarks

There are two forms to the ADDLFTOCR function. The first form takes no arguments and simply returns the current setting. The second form sets the state of the toggle and returns the previous state.

In both the parameter and the return value, a nonzero value means line feeds are added to incoming carriage returns. A zero value means no additional characters are added.

See also

DUPLEX

Example

This example shows how the ADDLFTOCR function can be used in a logon script to turn on the line feed control.

```
dim oldcrlf as integer
oldcrlf = addlftocr(on)
waitfor "UserID"
send "123456"
addlftocr oldcrlf
```




ADDPHONEENTRY Statement

The ADDPHONEENTRY statement is used to add a new entry to the phonebook.

Syntax

```
ADDPHONEENTRY phoneentry
```

Remarks

The name of every entry in the phonebook must be unique. If the entry name already exists, this statement will fail. The *phoneentry* variable is a variable of type PHONEENTRY. Refer to the appendix for the phoneentry declaration.

See also

DIAL

Example

This example shows how you might set up the MSI HQ BBS as a phonebook entry and then reset the downloads and uploads to zero.

```
dim entry as phoneentry
entry.NAME      = "MSI HQ BBS"
entry.AREACODE  = "805"
entry.TAPIDEVICE = "Courier HST Dual Standard Fax+ASL"
entry.NIMBER (1) = "873-2400"
entry.USERID    = "Canfield Customer"
entry.PASSWORD  = "QMPROWIN95"
entry.UPLOADS   = 0
entry.DOWNLOADS = 0
entry.CONNECTTYPE = 0 //Set data as connect type
addphoneentry (entry)
```



AND Operator

AND performs a bitwise AND operation between its operands.

Syntax

`op1 AND op2`

Remarks

op1 and *op2* are logical expressions or numeric values of any integral type (byte, integer, or long integer).

This is the logical truth table for the AND operator:

| x | y | x AND y |
|---|---|---------|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

See also

EQV, IF, IMP, NOT, OR, XOR

Example

The first part of this example shows how the AND operator can be used as a bitwise logical operator to perform manipulations on integers. The second part of this example shows how the AND operator can be used to combine the results of two comparisons and supply the result to an IF statement.



```
dim i as integer
i = 129
if i and 127 = 1 then
    print "yes"
end if
```

```
dim j as integer
j = 4
if i = 129 and j = 4 then
    print "yes again"
end if
```



ASC Function

Returns the ASCII value (from 0 to 255) of the first character in a string.

Syntax

`ASC(string)`

Remarks

string is any string expression. The return value of this function is the ASCII value of the first character in the string. If the string is empty this function returns zero.

The opposite of the ASC function is the CHR function. The CHR function returns the character corresponding to a particular ASCII code.

See also

CHR, VAL

Example

This example prints 104, which is the ASCII value of "h", the first character in the string "hello".

```
dim a as string  
a = "hello"  
print asc(a)
```



ATN Function

Returns the arctangent of a numeric expression.

Syntax

`ATN(number)`

Remarks

The arctangent of *number* is the angle in radians whose tangent is equal to *number*. You can convert radians to degrees by multiplying by $180/\pi$ (π is approximately 3.14159).

See also

COS, SIN, TAN

Example

This example uses the `atn` function to compute the value of π .

```
print 4*atn(1)
```



AUTOANSWER Statement

Used to turn the AutoAnswer mode on or off for a specific modem.

Syntax

AUTOANSWER onoff

Remarks

If a modem name is passed to this function, autoanswer mode is turned ON for that modem. The return value is TRUE if the operation is successful. If AUTOANSWER OFF is used, auto answer mode is turned OFF.

See also

DIAL, HANGUP

Example

This example tells you whether a key was pressed or a call was answered.

```
if autoanswer (getmodemname (0) ) then
  print "Autoanswer is now on."
else
  print "Failed to configure modem for AUTOANSWER."
```



BEEP Statement

Causes *QmodemPro* to sound the regular Windows 95 beep sound.

Syntax

BEEP

Remarks

If you have attached a .wav file to the "Default Beep" sound in Windows 95 Control Panel, then this command will play the corresponding .wav file.

See also

SOUND

Example

This example simply sounds the Windows 95 default beep.

beep





BREAK Statement

Sends a break signal to the communications port.

Syntax

BREAK

Remarks

A break is a special signal sent to the communications port. The break signal is often used with older communications hardware, such as mainframes. It usually does not have any effect when connected to a bulletin board or online service.

See also

HANGUP

Example

This example sends a break signal, waits for the string "connection lost", then ends the script.

```
break
waitfor "connection lost"
end
```




BYTE Type

Used to declare a variable that can handle byte sized numbers.

Remarks

Variables of byte type can hold values that range from 0 to 255.

See also

DIM, INTEGER, LONG, REAL, TYPE

Example

This example declares a variable of type BYTE and assigns a value to it.

```
dim i as byte
i = 5
print i
```



BYVAL Keyword

Indicate the parameter passing method for Subs and Functions.

Syntax

`Function Name(BYVAL tStr As String) As String`

`Sub Name(BYVAL tNum As Long)`

Remarks

The **ByVal** keyword allows you to define how a parameter to be handled within a subroutine at the time of designing the **Sub** or **Function**. The default method for handling parameters is to pass by reference, which means that the subroutine or function can modify the value of the original variable.

By using **ByVal**, it will force the compiler to create a working copy of the data type and leave the passed parameter untouched on return.

See also

FUNCTION, SUB



Example

Rem The difference in passing by value or by reference

Dim tStr **As** **String**

Function Extend(aStr **As** **String**, aLen **As** **Word**) **As** **String**

If Len(aStr) < aLen **Then**

 aStr = aStr + String(aLen - Len(aStr), ".")

End If

 Extend = aStr

End Function

Function ExtendBV(**ByVal** aStr **As** **String**, aLen **As** **Word**) **As** **String**

If Len(aStr) < aLen **Then**

 aStr = Pad(aStr, aLen)

End If

 ExtendBV = aStr

End Function

tStr = "Testing this here String!"

Print "[", ExtendBV(tStr, 60), "]"

Print "[", tStr, "]" : **Rem** ByVal = no change

Print "[", Extend(tStr, 60), "]"

Print "[", tStr, "]" : **Rem** By reference = change



CALL Statement

Executes a subroutine or function.

Syntax

```
CALL name[( arg [, arg ...])]
```

or

```
name {arg[, arg ...]}
```

Remarks

name is the name of the subroutine or function to execute. Subroutines and functions must be at least declared before you can call them (see the DECLARE statement for information on declaring subroutines and functions).

arg is an argument that is passed to the sub-program. Multiple arguments are separated with commas. When using the first syntax with the CALL keyword, parentheses are required around the argument list. When using the second syntax, omitting the CALL keyword, parentheses are optional around the parameter list.

Arguments are normally passed to the subroutine or function in "reference" mode. This means that if the corresponding argument in the function is changed, the original copy will be changed too. This behavior may be changed by passing an expression to the function, like *a+1* or *(a)* (the parentheses around *a* serve only to create an expression and prevent a subroutine from changing its value). See the example below for an illustration of how this works.

See also

DECLARE, FUNCTION, GOSUB, SUB

Example

This example declares a subroutine called *f* which takes two arguments. The subroutine adds one to the first argument, and adds two to the



second argument. If you run this script, you will notice that the value of `a` in the main program is changed, while the value of `b` remains the same. This is because `b` is not directly passed to the subroutine, but a copy of `b` is. The subroutine changes the copy and does not affect the actual value of `b`.

```
declare sub f(x as integer, y as integer)
```

```
dim a as integer, b as integer
```

```
a = 4
```

```
b = 7
```

```
call f(a, (b))
```

```
print "a is "; a
```

```
print "b is "; b
```

```
sub f(x as integer, y as integer)
```

```
    x = x + 1
```

```
    y = y + 2
```

```
end sub
```



CAPTURE Statement

Used to open or close a terminal capture file.

Syntax

`CAPTURE filename`

`CAPTURE ON`

`CAPTURE OFF`

Remarks

filename is the name of the file to which captured data will be appended. Since the file name is a string, it will normally be enclosed in quotation marks.

on turns on the capture file specified in **Options/Files/File Definitions**.

off closes any currently open capture file.

If you specify a new capture file while another capture file is still open, the first capture file will be closed before the new one is opened.

If the capture file cannot be opened, the `ERR_FILEOPEN` error will be generated. This error can be caught with the `CATCH` statement.

See also

`CATCH`, `PRINTER`

Example

This example opens the capture file "test.cap", sends an Enter to the communications port, waits 10 seconds, then closes the capture file.

```
capture "test.cap"  
send  
delay 10  
capture off
```



CARRIER Function

Determines whether the modem is currently online and connected to another modem.

Syntax

CARRIER

Remarks

The CARRIER function returns TRUE if the modem currently reports that it is online and connected to another modem. If not, it returns FALSE. The return value of this function corresponds with the state of the "Online/Offline" indicator at the bottom of the terminal window.

See Also

HANGUP

Example

This example sends the string "bye" to the communications port, then waits until the modem reports that carrier is no longer active (that is, the remote modem has hung up).

```
send "bye"  
while carrier do  
wend
```



CASE Statement

Introduces a new case in a SELECT CASE statement. Please see the description of the SELECT CASE statement for more information and examples.



CATCH Statement

Used to catch runtime errors and perform error recovery actions.

Syntax

```
CATCH errvalue [, errvalue ...]  
or  
CATCH ALL
```

Remarks

The CATCH mechanism provides a convenient way of responding to errors that may occur while your script is running. The errvalue values must be one of the following:

ERR_ARRAYSUBSCRIPT

Caused by accessing an array using an invalid subscript index.

ERR_FILEOPEN

An error during a file open operation causes this error. The commands that can cause this exception are CAPTURE, OPEN, and SHELL.

ERR_FILERENAME

Caused by an error during a file rename operation. This could be caused by the original file not being found, or open by another application, or the destination filename is already in use. The NAME statement can cause this error.

ERR_FUNCTIONNOTFOUND

Caused by trying to call a function in a dynamic link library (DLL) where the named function does not exist.



ERR_INVALIDFILENAME

Caused by using an invalid file number in any file operation, including OPEN, CLOSE, PRINT, INPUT, INKEY, LOF, and so on.

ERR_LIBRARYNOTFOUND

Caused by trying to call a function in a dynamic link library (DLL) where the named DLL does not exist.

ERR_MATH

Caused by trying to divide by zero, taking the logarithm of zero or a negative number, or by taking the square root of a negative number.

ERR_PATH

Caused by an invalid drive or path name in one of the following commands: CHDIR, CHDRIVE, MKDIR, RMDIR.

ERR_TIMEOUT

Caused by a timeout during one of the following commands: INPUT, RECEIVE, WAITFOR.

A CATCH statement may only be placed at the end of a user defined subroutine or function, or at the end of the main program body. During normal operation (the case where no runtime error occurs) the statements after the CATCH statement are skipped. If one of the above runtime errors occurs, the CATCH block for the currently executing function will be searched for a handler for the error. If there is no CATCH block or if there is no specific CATCH handler for the error that occurred, control will return to the function that called the current function. Its CATCH block (if any) will be searched for a handler, and so on up the call chain. If the error propagates all the way up to the main program body and there is no CATCH handler there for the error, then the script is automatically halted with an appropriate error message.



See also

ERROR

Example

This example defines a subroutine that opens a file called "test.dat", reads the first line of text from the file, and closes it. If there is an error opening the file, the subroutine prints an error message.

```
declare sub test
dim a as string
call test(a)
print a

sub test(s as string)
    open "test.dat" for input as #1
    input #1, s
    close #1
catch err_fileopen
    print "could not open test.dat"
end sub
```



CHAIN Statement

Used to transfer control to another script.

Syntax

`CHAIN scriptname`

Remarks

This command terminates execution of the current script and starts execution of the named script. All currently open files are closed and variables are discarded.

The script named in this command must be the name of a compiled script with the proper .QSCX extension. Scripts are not automatically compiled by this command.

See also

END, STOP

Example

This example shows two files, a.QSC and b.QSC, and demonstrates how you can start execution of the second script from the first.

```
[in file a.QSC]
print "in a.QSC"
chain "b.QSC"
```

```
[in file b.qsc]
print "in b.qsc"
```



CHDIR Statement

Changes the current directory.

Syntax

CHDIR *directory*

Remarks

This command changes to the directory named in the *directory* argument.

As with the DOS CHDIR command, this does not change the current drive, even if it is specified in the argument. However, if you change the current directory for a drive that is not the current drive, the change will be remembered until you next change to the new drive using the CHDRIVE command.

See also

CHDRIVE, CURDIR, CURDRIVE, MKDIR, RMDIR

Example

This example shows various ways the CHDIR command can be used.

```
chdir "\"           'change to the root directory
chdir "c:\QMWIN95"   'change to C:\QMWIN95
dim newdir as string
newdir = "c:\temp"    'assign specified directory to
                      'string variable NEWDIR
chdir newdir          'change to the new directory
```



CHDRIVE Statement

Changes the current drive.

Syntax

CHDRIVE *driveletter*

Remarks

This command changes the current drive to *driveletter*. If *driveletter* is longer than one character, only the first character in the string is used.

See also

CHDIR, CURDIR, CURDRIVE

Example

This example takes advantage of the fact that only the first letter of the argument to CHDRIVE is used, and changes to the directory "c:\test" no matter which drive this script was started from.

```
dim a as string
a = "c:\test"
chdrive a
chdir a
```



CHR Function

Returns the ASCII character corresponding to the specified ASCII code value in the range of 0 to 255.

Syntax

`CHR (number)`

Remarks

This function returns the ASCII character corresponding to *number*.

The opposite of the CHR function is the ASC function. The ASC function returns the ASCII character value of the first character in a string.

See also

ASC, SPACE, STRING

Example

This example prints "Hi" using the ASCII values of the characters "H" and "i".

```
print chr(72); chr(105)
```



CLOSE Statement

Closes a file or files opened with the OPEN statement.

Syntax

```
CLOSE [[#]filename[, [#]filename]...]
```

Remarks

filename is the number of an open file. The file associated with the given file number will be closed.

CLOSE without any parameters will close all open files.

Although *QmodemPro for Windows 95* will automatically close files when the script terminates, you should always close any files that you open. There are only a limited number of file numbers available; if you run out of file numbers you will not be able to open any more files.

See also

OPEN, RESET

Example

This file opens a new file called "test.txt" for output, writes a line of test data to the file, then closes the file.

```
open "test.txt" for output as #1
print #1, "test data"
close #1
```





CLOSEPORT Statement

This statement closes the currently opened port, if any.

Syntax

CLOSEPORT

Remarks

CLOSE without any parameters will close all open ports.

See also

OPENSERIALPORT, OPENTCPIPPOINT

Example

Here is an example of how you might open COM1, send a dial command, and then close the port.

```
if openserialport ("COM1") then print "COM 1 opened."  
SEND "ATDT 1-805-873-2400 ^M"  
Closeport  
print "port closed."
```





CLS Statement

Clears the terminal screen and returns the cursor to the top left corner. This command also resets the current text color to the default text color.

Syntax

CLS

Remarks

This command is similar to the DOS CLS "clear screen" command.

See also

COLOR

Example

This example clears the screen and writes "Hello, world!" in the upper left hand corner.

```
cls  
print "Hello, world!"
```



COLOR Statement

Sets the current terminal color to the specified foreground and background.

Syntax

```
COLOR foreground [, background]
```

Remarks

Sets the current terminal color to the specified foreground and background values. If the background value is not specified, then it remains unchanged.

The color values used by this command are listed in the appendix of this manual.

See also

CLS, SCREEN

Example

This example sets the color to yellow on blue and prints a text string in that color.

```
color 11, 4  
print "yellow text on blue background"
```



CONFIGCAPTUREFILE Function

Syntax

CONFIGCAPTUREFILE

Remarks

This function returns the exact text contained in the Options/Files/File definitions dialog entry for the capture file name. This is usually the fully qualified path and filename of the capture file, but may return only the filename if no path was entered in the config dialog.

See also

CONFIGDOWNLOADPATH, CONFIGLOGFILE, CONFIGSCRIPTPATH,
CONFIGSCROLLBACKFILE, CONFIGTRAPFILE, CONFIGUPLOADPATH

Example

UPLOAD (CONFIGCAPTUREFILE, Zmodem)





CONFIGDOWNLOADPATH Function

Syntax

CONFIGDOWNLOADPATH

Remarks

This function returns the exact text contained in the Options/Files/Path definitions dialog entry for the download path. This is the fully qualified path for the download directory, without a trailing backslash.

See also

CONFIGCAPTUREFILE, CONFIGLOGFILE, CONFIGSCRIPTPATH,
CONFIGSCROLLBACKFILE, CONFIGTRAPFILE, CONFIGUPLOADPATH

Example

CHDIR CONFIGDOWNLOADPATH



CONFIGLOGFILE Function

Syntax

CONFIGLOGFILE

Remarks

The function returns the exact text contained in the Options/Files/File definitions dialog entry for the logfile name. This is usually the fully qualified path and filename of the log file, but may return only the filename if no path was entered in the config dialog.

See also

CONFIGDOWNLOADPATH, CONFIGCAPTUREFILE,
CONFIGSCRIPTPATH, CONFIGSCROLLBACKFILE, CONFIGTRAPFILE,
CONFIGUPLOADPATH

Example

UPLOAD (CONFIGLOGFILE, Zmodem)





CONFIGSCRIPTPATH Function

Syntax

CONFIGSCRIPTPATH

Remarks

The function returns the exact text contained in the Options/Files/Path definitions dialog entry for the scripts path. This is the fully qualified path for the scripts directory, with no trailing backslash.

See also

CONFIGDOWNLOADPATH, CONFIGCAPTUREFILE, CONFIGLOGFILE,
CONFIGSCROLLBACKFILE, CONFIGTRAPFILE, CONFIGUPLOADPATH

Examples

CHDIR CONFIGSCRIPTPATH



CONFIGSCROLLBACKFILE Function

Syntax

CONFIGSCROLLBACKFILE

Remarks

The function returns the exact text contained in the Options/Files/File definitions dialog entry for the scrollbar filename. This is usually the fully qualified path and filename of the scrollbar file, but may return only the filename if no path was entered in the config dialog.

See also

CONFIGDOWNLOADPATH, CONFIGLOGFILE, CONFIGSCRIPTPATH,
CONFIGCAPTUREFILE, CONFIGTRAPFILE, CONFIGUPLOADPATH

Example

UPLOAD (CONFIGSCROLLBACKFILE, Zmodem)



CONFIGTRAPFILE Function

Syntax

CONFIGTRAPFILE

Remarks

The function returns the exact text contained in the Options/Files/File definitions dialog entry for the trap filename. This is usually the fully qualified path and filename of the trap file, but may return only the filename if no path was entered in the config dialog.

See also

CONFIGDOWNLOADPATH, CONFIGLOGFILE, CONFIGSCRIPTPATH,
CONFIGSCROLLBACKFILE, CONFIGCAPTUREFILE,
CONFIGUPLOADPATH

Example

UPLOAD (CONFIGTRAPFILE, Zmodem)



CONFIGUPLOADPATH Function

Syntax

CONFIGUPLOADPATH

Remarks

The function returns the exact text contained in the Options/Files/File definitions dialog entry for the upload file area path. This is the fully qualified path for the upload path, with no trailing backslash.

See also

CONFIGDOWNLOADPATH, CONFIGLOGFILE, CONFIGSCRIPTPATH,
CONFIGSCROLLBACKFILE, CONFIGTRAPFILE, CONFIGCAPTUREFILE

Examples

CHDIR CONFIGUPLOADPATH



CONST Statement

Used to assign symbolic names that will be used in place of actual values.

Syntax

```
CONST name = expression [, name = expression ...]
```

Remarks

name is the name of the new constant.

expression is the value to assign to the symbolic constant name.

The type of name is determined by the type of the expression.

Constants defined in subroutines or functions can only be used within the subroutine or function. Constants defined with a CONST statement in the main program body can be used throughout the program.

Example

This example declares the constant "myname" and assigns a value to it.

```
const myname = "John Doe"  
print "My name is "; myname
```



COPYFILE Function

Copy a file to another directory or drive.

Syntax

COPYFILE(SourceFile, TargetFile)

Remarks

The **CopyFile** function does just as the name describes, it copies a file from one location to another. It will issue no warning, prior to over-writing a file with an identical name, if one exists in the target directory. The function will return either **True** or **False** upon the success of the operation. Both *SourceFile* and *TargetFile* must include the file name as a path-only in *TargetName* will be rejected.

See also

NAME

Example

Rem Copy a file across drives

```
If CopyFile("C:WCLIST.OUT", "D:\BAK\DATA\WCLIST.BAK") Then
    Print "File copied"
Else
    Print "Copy failed"
    Beep
    WaitEnter
End If
```



COS Function

Returns the cosine of an angle.

Syntax

`COS(angle)`

Remarks

angle is the measurement of an angle expressed in radians. You can convert radians to degrees by multiplying by $180/\pi$ (π is approximately 3.14159).

See also

ATN, SIN, TAN

Example

This example prints the cosine of 1 radian.

```
print cos(1)
```



CSRLIN Function

Returns the current vertical coordinate position (row number) of the cursor.

Syntax

CSRLIN

Remarks

This value is usually an integer in the range 1 through 25, but may be larger depending on the number of lines set in the **Options/Emulations** dialog.

See also

LOCATE, POS

Example

This example clears the screen, then prints the cursor line twice. The first time it will be 1 since the cursor is on the top line of the screen, and the second time it will be 2 (the cursor moved down because of the first print statement).

```
cls  
print csrlin  
print csrlin
```



CURDIR Function

Returns the current drive and directory.

Syntax

CURDIR

Remarks

The current directory of the current drive is returned without a trailing backslash (unless the current directory is the root directory).

See also

CHDIR, CHDRIVE, CURDRIVE, MKDIR, RMDIR

Example

This example prints the current directory for the current drive.

```
print "The current directory is "; curdir
```



CURDRIVE Function

Returns the current drive letter.

Syntax

CURDRIVE

Remarks

The current drive letter is returned as an uppercase letter. This is the same drive that is returned by the CURDIR function.

See also

CHDIR, CHDRIVE, CURDIR, MKDIR, RMDIR

Example

This example prints the current drive letter.

```
print "The current drive is "; curdrive
```




DATE Function

Returns the current date as a string.

Syntax

DATE

Remarks

The date is returned in the system format specified in Windows 95 Control Panel, Regional Settings section, short date format.

See also

TIME

Example

This example prints today's date.

```
print "Today is "; date
```



DATETIMEDIFF Function

Computes the difference between two variables of type DateTime and returns the result in Days and Seconds.

Syntax

DATETIMEDIFF (dt1 as DateTime, dt2 as DateTime, days as integer, seconds as integer)

Remarks

The difference is computed without regard to which datetime (dt1 or dt2) is greater. The result will always be a positive number.

See also

DATETIME

Example

This exmple prints to the screen the number of days and seconds between dialing a BBS and hanging up.

```
dim starttime as datetime
dim endtime as datetime
dim totaldays as integer
dim totalseconds as integer

getcurrentdatetime (starttime)
send "ATDT 1-805-873-2400^M"
waitfor "NO CARRIER"
getcurrentdatetime (endtime)
datetimediff (starttime, endtime, totaldays, totalseconds)
print "You were logged on for ";totaldays;"days \
and ";totalseconds;" seconds."
```



DECLARE Statement

Allows you to declare subroutines and functions before their actual definition. Also allows declaration of DLL subroutines and functions.

Syntax

```
DECLARE [FUNCTION | SUB] name [LIB "libname" [ALIAS "aliasname"]]
[({argument list})] [AS returntype]
```

Remarks

name is the name of the subroutine or function.

The argument list lists the parameters to the subroutine or function. This argument list must match the argument list declared in the actual definition of the subroutine or function.

The LIB and ALIAS clauses are used to declare a function that actually exists in another DLL. For more information on declaring and using DLL functions, see Using DLL Functions.

The final AS clause is used to declare the return type of a function.

Functions must be declared before they can be used. If the function definition appears later in the script source file from where you want to call the function, the DECLARE statement can be used to declare the function before the call.

See also

CALL, FUNCTION, SUB

Example

This example uses the DECLARE statement to declare a function so it can be used before its actual definition appears later in the file.

```
declare function timestwo(x as integer)
print timestwo(5)

function timestwo(x as integer)
    timestwo = x * 2
end function
```



DEL Statement

Deletes a file from disk.

Syntax

DEL filename

Remarks

filename is the name of the file to delete. Wildcards * and ? are not supported.

This statement is identical to the script KILL command.

You cannot delete an open file, whether it is has been opened by your script, *QmodemPro for Windows 95*, or another application.

See also

KILL, RMDIR

Example

This example deletes the file "test.dat" from the current directory.

```
del "test.dat"
```



DELAY Statement

Used to suspend script execution for a certain time interval.

Syntax

`DELAY time`

Remarks

time is the amount of time to suspend execution, expressed in seconds. If you want to delay for less than a second, use ordinary decimal notation.

This command is identical to the script PAUSE command.

See also

PAUSE, WAITFOR, WHEN QUIET, WHEN TIME

Example

This example uses the "atz" command to reset a Hayes-compatible modem, waits for half a second, then sends a command to dial a telephone number.

```
send "atz"  
delay 0.5  
send "atdt5551212"
```



DIAL Statement

This statement is used to dial an entry or entries from the phonebook.

Syntax

DIAL ENTRY *number*
or
DIAL GROUP *groupname*
or
DIAL SEARCH *string*
or
DIAL MANUAL *number*

Remarks

There are four forms to the DIAL command:

DIAL ENTRY

This form allows you to dial a specific entry number in the phonebook.

DIAL GROUP

This form allows you to dial all the entries in a named group.

DIAL SEARCH

This form allows you to search for a string and dial all entries that contain that string.

DIAL MANUAL

This form allows you to dial a specific phone number from the script.

After dialing a number from a script in this way, the script file specified in the dialing directory (if any) is not executed. After connect the script proceeds from the next statement after the DIAL command.



See also

ADDPHONEENTRY, DIALNEXT, HANGUP, LASTCONNECTUSERID,
LASTCONNECTPASSWORD,

Examples

This example shows each of the four ways the DIAL command can be used.

```
dial entry 3  
dial group "Morning mail"  
dial search "Mustang"  
dial manual "555-1212"
```



DIALNEXT Function

This function is used to dial the next entry in a group after using the DIAL GROUP command.

Syntax

DIALNEXT

Remarks

When using the DIAL GROUP command, all the entries in the phonebook corresponding to the dialed group are marked for dial. After connecting to an entry, use the DIALNEXT function to continue dialing the remaining marked entries in the phonebook.

This function returns FALSE if there are no further marked entries in the phonebook, otherwise it returns TRUE.

See also

ADDPHONEENTRY, DIAL, HANGUP

Examples

This example shows how the DIALNEXT command is used in conjunction with DIAL GROUP.

```
dial group "Morning mail"  
do  
    ... do whatever needs to be done online ...  
loop while dialnext
```




DIALOG Statement

This statement is used to declare a group box style.

Syntax

```
DIALOG dialogtype x, y, w, h
[CAPTION caption]
[FONT size, fontname]
[integer-field AS CHECKBOX title, id, x, y, w, h]
[integer-field AS COMBOBOX id, x, y, w, h]
[CTEXT title, id, x, y, w, h]
[DEFPUSHBUTTON title, id, x, y, w, h]
[string-field AS EDITTEXT id, x, y, w, h]
[GROUPBOX title, id, x, y, w, h]
[integer-field as LISTBOX id, x, y, w, h]
[LTEXT title, id, x, y, w, h]
[PUSHBUTTON title, id, x, y, w, h]
[integer-field AS RADIOBUTTON title, id, x, y, w, h]
[RTEXT title, id, x, y, w, h]
...
END DIALOG
```

Remarks

The DIALOG statement declares a *dialog template*. A dialog template is much like a user defined type in that it contains named fields in which you can place information. Dialog templates can also have a number of unnamed fields which serve to place extra information in the Windows 95 dialog that is created based on this template.

Dialog boxes are discussed in depth in the section titled Using Dialog Boxes.



DIALOGBOX Function

Displays and executes a dialog box based on a dialog box template.

Syntax

DIALOGBOX(dialogvar)

Remarks

This function creates and executes a dialog box based on the dialog box variable. Its return value depends on the event that caused the dialog box to close. In most cases this will be either IDOK or IDCANCEL depending on whether the user pressed the OK button or the Cancel button to close the dialog box. In more advanced cases the meaning of the return value will be user defined.

The dialog box variable used in this function should not be already active.

Dialog boxes are discussed in depth at the end of this chapter, in the section titled Using Dialog Boxes.

See also

DIALOG



DIM Statement

The DIM statement is used to declare variables of any type including array types. An array is a variable containing a series of values that are all of the same type.

Syntax

```
DIM var[([lowerbound TO] upperbound)] AS type[, var[([lowerbound TO] upperbound)] AS type...]
```

Remarks

var is the name of the array or variable being declared.

lowerbound and upperbound declare the lowest and highest subscript values that are allowed if an array is being declared. If lowerbound is omitted, it defaults to zero.

Each variable must have an associated type declaration with the AS clause.

Variables declared within a subroutine or function are only available from within that subroutine or function. Variables declared in the main program body are available throughout the entire script file.

An array consists of a number individual variables, called “elements”, which are referred to by numbers, called “subscripts” indicating the position of each element in the array.

See also

STATIC



Example

This example declares a simple integer "i" and an array "a" which refers to a sequence of six integers, numbered a(0) through a(5).

```
dim i as integer, a(5) as integer
for i = 1 to 5
  a(i) = i*2
next
for i = 1 to 5
  print a(i)
next
```



DO ... LOOP Statement

Repeatedly executes a block of statements while (or until) a specified condition is met.

Syntax

```
DO [{WHILE | UNTIL} expression]
    [statements]
LOOP

    or

DO
    [statements]
LOOP [{WHILE | UNTIL} expression]
```

Remarks

The first example above tests for the specified condition at the beginning of the loop, and exits the loop when the condition is met.

The second example tests for the specified condition at the end of the loop, and continues until the condition is met.

expression is any logical expression that evaluates to either true (nonzero) or false (zero). The keyword **WHILE** repeats the loop while the expression remains true. The **UNTIL** keyword repeats the loop until the expression becomes true.

statements are program statements that are repeated. Note that statements are optional; a loop can be empty, waiting for an external event such as a keypress or an incoming character.

Every **DO** statement in a program must have a corresponding **LOOP**, and each **LOOP** must have a preceding **DO**.

See also

EXIT DO, FOR ... NEXT, WHILE ... WEND



Example

This example prints out the integers from 1 through 5 using a DO WHILE ... LOOP statement.

```
dim i as integer
i = 0
do while i < 5
    i = i + 1
    print i
loop
```



DOORWAY Function

Used to get or set the current state of the Doorway toggle.

Syntax

```
DOORWAY  
or  
DOORWAY (onoff)
```

Remarks

There are two forms to the DOORWAY function. The first form takes no arguments and simply returns the current setting. The second form sets the state of the toggle and returns the previous state.

In both the parameter and the return value, a nonzero value means Doorway mode is turned on. A zero value means Doorway mode is turned off.

When turned on, Doorway mode causes all keystrokes that can be typed on the keyboard to be sent directly to the remote. This will work only with a remote host that understands the Doorway keystrokes.

Example

This example shows how to save the doorway setting, change it, and then restore it.

```
dim olddoorway as integer  
olddoorway = doorway(on)  
...  
doorway olddoorway
```



DOWNLOAD Function

Used to receive files from a remote computer.

Syntax

`DOWNLOAD(filename, protocol)`

Remarks

This function initiates a file transfer to receive files from a remote computer. At the time this command is executed, the remote computer must already have started the file transfer. If you are connecting to a bulletin board system (BBS) then your script should already have sent the command to the BBS that will start the file transfer.

The protocol is one of the following predefined constants:

ASCII, XMODEM, XMODEMCRC, XMODEM1K, XMODEM1KG,
YMODEM, YMODEMG, ZMODEM, KERMIT

For the first five protocols, the filename parameter must specify an actual file name in which to place the received file. The ASCII and Xmodem variant protocols do not supply a filename, so one must be supplied in the DOWNLOAD function.

For the last four protocols, the filename parameter should be the name of a directory in which to place the received files. If this parameter is an empty string (" ") then the download directory specified in **Options/Files/Path Definitions** will be used.

The DOWNLOAD function returns zero if the file transfer was successful. If the transfer was unsuccessful, DOWNLOAD returns the error code describing the error. For a list of error codes see Chapter 4.

This function is identical to the RECEIVEFILE function.

See also

RECEIVEFILE, SENDFILE, UPLOAD



Example

This example receives a file from a remote computer, assuming that the remote computer has already started to send the file.

```
if download("", Zmodem) = 0 then
  print "file transfer ok!"
end if
```



DUPLEX Function

Used to get or set the current duplex (local echo) setting.

Syntax

DUPLEX

or

DUPLEX (onoff)

Remarks

There are two forms to the DUPLEX function. The first form takes no arguments and simply returns the current duplex setting. The second form sets the duplex and returns the previous state of the duplex setting.

In both the parameter and the return value, a nonzero value means full duplex or no local echo. A zero value means half duplex or local echo.

See also

HOSTECHO

Example

This example shows how the DUPLEX function can be used to control the local echo of characters sent to the communications port.

```
dim oldduplex as integer
oldduplex = duplex(0)
send "this will be echoed locally"
duplex oldduplex
send "this will not be echoed locally"
```





EDITFILE Statement

Used to invoke the internal editor with a specified file.

Syntax

EDITFILE filename

Remarks

This function brings up the internal editor with the named file loaded ready for editing. Note that that script continues to run after the editor is started.

See also

VIEWFILE

Example

This example shows how the EDITFILE command might be used to edit the host mode user file.

```
editfile "host.usr"
```





ELSE Statement

The ELSE statement is used to introduce the alternative portion of an IF statement. See the discussion of the IF statement for more information.



ELSEIF Statement

The ELSEIF statement is used to introduce an optional alternative portion of an IF statement. See the discussion of the IF statement for more information.



EMULATION Statement

This statement is used to change the current terminal emulation.

Syntax

`EMULATION emulation`

Remarks

The emulation argument must be one of the following predefined constants:

ADDSVP60, ADM3A, ANSI, AVATAR, DEBUGASCII, DEBUGHEX, DG100, DG200, DG210, HAZELTINE1500, HEATH19, IBM3101, IBM3270, RIPSCRIP, TTY, TVI910, TVI912, TVI920, TVI922, TVI925, TVI950, TVI955, VIDTEX, VT100, VT102, VT220, VT320, VT52, WYSE30, WYSE50, WYSE60, WYSE75, WYSE85, WYSE100, WYSE185

See also

DIAL

Example

This example changes the current terminal emulation to RIPscrip.

`emulation ripscrip`



END Statement

Ends a script and returns to normal terminal operation.

Syntax

END

Remarks

The END statement immediately terminates the currently executing script and returns to normal terminal operation. It may be executed at any time. Any currently open files are closed before the script ends.

See also

STOP

Example

This example print a string to the terminal, then ends the script. The second print statement is never executed.

```
print "hello world"
end
print "this is never executed"
```



ENVIRON Function

Returns the value of the specified DOS environment variable.

Syntax

`ENVIRON (envname)`

Remarks

envname is the name of the environment variable to retrieve. The *envname* parameter should be in upper case. If the specified environment variable is not found, an empty string will be returned.

Example

This example prints out the current DOS PATH setting.

```
print environ("PATH")
```




EOF Function

Used to determine whether the end of a file has been reached.

Syntax

`EOF(filename)`

Remarks

This function returns TRUE if the end of the file specified by the *filename* parameter has been reached.

See also

LOC, LOF, SEEK

Example

This example prints the contents of a text file line by line until the end of the file is encountered.

```
dim a as string
open "test.dat" for input as #1
do while not eof(1)
    input #1, a
    print a
loop
close #1
```



EQV Operator

EQV performs a bitwise equivalence operation between its operands.

Syntax

`op1 EQV op2`

Remarks

op1 and op2 are logical expressions or numeric values of any integral type (byte, integer, or long integer).

This is the logical truth table for the EQV operator:

| a | b | a EQV b |
|---|---|---------|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

See also

AND, IMP, NOT, OR, XOR

Example

This example shows how the EQV operator can be used in an IF statement.

```
dim i as integer, j as integer, k as integer
i = 10
j = 8
k = 6
if i > j eqv j > k then
    print "both expressions are true or both are false"
end if
```



ERROR Statement

Causes a predefined or user defined runtime error to occur.

Syntax

```
ERROR errvalue
```

Remarks

If there is a CATCH handler for the error value, then it will be executed. Otherwise, the script will be terminated automatically. See the CATCH statement for a list of predefined runtime error values.

See also

CATCH

Example

This example forces the ERR_FILEOPEN error to occur, which will cause the script to jump immediately to the handler for ERR_FILEOPEN. As a result, the first print statement won't be executed.

```
error err_fileopen
print "this won't be printed"

catch err_fileopen
print "caught the error"
```



EXISTS Function

Determines whether a specific file exists on disk.

Syntax

EXISTS(filename)

Remarks

This function returns TRUE if the specified file exists on disk. DOS wildcards are not accepted.

See also

FINDFIRST, FINDNEXT

Example

This example determines whether the "c:\autoexec.bat" file still exists.

```
if exists("c:\autoexec.bat") then
    print "autoexec.bat is still there"
end if
```



EXIT Statement

Aborts a loop, subroutine, or procedure without waiting for normal termination or return.

Syntax

EXIT [DO | FOR | FUNCTION | SUB]

Remarks

One of the four keywords above must be included in the EXIT statement.

Use the EXIT DO and EXIT FOR statements to exit a loop defined by a DO ... LOOP or a FOR ... NEXT statement.

If a loop is nested, the EXIT statement will stop only the current (innermost) loop.

Use the EXIT FUNCTION and EXIT SUB statements to abort procedures defined by a FUNCTION or SUB statement.

If you are exiting a function with EXIT FUNCTION and have not already assigned a value to the function result, the function will return zero or an empty string, depending on the type of the function.

See also

DO ... LOOP, FOR ... NEXT, FUNCTION, SUB

Example

This example uses the EXIT DO statement to break out of a loop when a certain condition is satisfied.

```
dim i as integer
i = 0
do
  i = i + 1
  if i > 10 then exit do
print i
loop
```



EXP Function

Returns the natural antilogarithm of a value.

Syntax

`EXP(number)`

Remarks

This function returns e (the natural logarithm base) raised to the power of *number*.

See also

`LOG`

Example

This example raises e to the power of 2 (in other words, it computes the square of e) and prints the result.

```
print exp(2)
```



FINDFIRST Function

Used to find the first of a set of files matching a wildcard filename specification.

Syntax

```
FINDFIRST(name, sr)
```

Remarks

name is the filename specification to search for, and can include DOS wildcard characters * and ?.

sr is a variable of type SEARCHREC that will hold the file information for the file found.

This function is normally used in conjunction with the FINDNEXT function to gather a list of files.

The declaration for the SEARCHREC type is as follows:

```
type searchrec
  FileAttributes as long
  CreationTime as DateTime
  LastAccessTime as DateTime
  LastWriteTime as DateTime
  FileSize as long
  FileSizeHigh as long
  FileName as string*260
  AlternateFileName as string*14
end type
```

This function returns zero if a file matching the specification was found. It returns a nonzero value if no files were found.

See also

EXISTS, FINDNEXT



Example

This example lists all the files in the "c:\QMWIN95" directory.

```
dim sr as searchrec, r as integer
r = findfirst("c:\QMWIN95\*.**", sr)
do while r = 0
    print sr.filename
    r = findnext(sr)
loop
```




FINDNEXT Function

Finds the next of a set of files that was started using the FINDFIRST function.

Syntax

`FINDNEXT(sr)`

Remarks

sr is a variable of type SEARCHREC.

This function is always used in conjunction with the FINDFIRST function to search for a list of files.

This function returns zero if another file matching the specification was found. It returns a nonzero value if no more files were found.

See also

EXISTS, FINDFIRST

Example

See the FINDFIRST function for an example of how to use this function.



FIX Function

Returns the integer or whole number portion for a numeric expression.

Syntax

`FIX(number)`

Remarks

FIX and INT operate the same for positive values, however with negative values their operation is slightly different. FIX returns the next-higher integer with negative values, while INT returns the next lower integer with negative values.

See also

INT

Example

This example shows how the FIX function rounds negative numbers up to the next higher integer. In this example the output will be 3 and -4.

```
print fix(3.7), fix(-4.9)
```



FLUSH Statement

Flushes either or both of the input and output communications buffers.

Syntax

FLUSH [INPUT] [OUTPUT]

Remarks

The INPUT keyword indicates that the communications input buffer should be flushed.

The OUTPUT keyword indicates that the communications output buffer should be flushed.

See also

BREAK, HANGUP

Example

This example shows how the FLUSH INPUT statement might be used to get rid of stray input data caused by hanging up the modem.

```
hangup  
delay 2  
flush input
```



FOR ... NEXT Statement

Executes a sequence of program statements a specified number of times.

Syntax

```
FOR index = initial TO final [STEP step]
  [statements]
NEXT [index]
```

Remarks

index is a numeric variable of type byte, integer, long, or real, and counts the number of times the loop executes.

initial is the initial value assigned to the counter at the beginning of the loop.

final is the ending value against which the loop tests the variable *index* for each pass.

step is the amount by which the counter is incremented after each pass in a FOR ... NEXT loop. The default value is 1.

When the value of *index* is higher than the value of *final*, the loop finishes, and returns control to the statement following the keyword NEXT. If the step value is less than zero, then the *index* is compared against the final value and the loop is stopped if *index* is less than *final*.

See also

DO ... LOOP, EXIT, WHILE ... WEND

Example

This example prints "hello" ten times.

```
dim i as integer
for i = 1 to 10
  print "hello "; i
next
```



FORMATDATE Function

Formats a DateTime value into a readable format determined by the picture parameter.

Syntax

FORMATDATE (picture as string, dt as datetime)

Remarks

The picture parameter is of the form "MM-dd-yy". Valid items in the picture string are:

| Picture | Meaning |
|---------|---|
| d | day of month as digits without a leading zero |
| dd | day of month as digits with a leading zero |
| ddd | day of week as a three letter abbreviation |
| dddd | day of week as a full name |
| M | month as digits without leading zero |
| MM | month as digits with a leading zero |
| MMM | month as a three letter abbreviation |
| MMMM | month as a full name |
| y | year as only last digit (if less than 10) |
| yy | year as last two digits |
| yyyy | year as full four digits |
| gg | period/era string |

See Also

FORMATTIME, TIME

Example

This example shows how you might use the FormatDate to print the current date as 06/22/95 in the terminal window.

```
dim currentdate as datetime
GetCurrentDateTime(datetime)
print "The date is ",formatdate ("dd/MM/yy", currentdate)
```



FORMATTIME Function

Formats a DateTime value into a readable format determined by the picture parameter.

Syntax

`FORMATTIME(picture as string, dt as DateTime)`

Remarks

Valid items in the picture string are:

| Picture | Meaning |
|---------|--|
| hh | hour as digits with a leading zero |
| mm | minutes as digits with a leading zero |
| ss | seconds as digits with a leading zero |
| t | time marker string as a single character |
| tt | time marker as an entire string |

See Also

`FORMATDATE`

Example

This example shows you how to print the current time in the terminal window.

```
dim currentdate as datetime
getcurrentdatetime (currentdate)
Print "The time is ";formattime ("hh:mm:ss tt",currentdate)
```



FREEFILE Function

Returns the next available file number.

Syntax

FREEFILE

Remarks

You can assign file numbers on the fly by storing the FREEFILE result in a variable and passing the variable to OPEN and CLOSE statements.

Return value

This function returns the first available file number (one that does not refer to a currently open file). If no file number is available, then the return value is -1.

See also

OPEN

Example

This example opens a file and outputs some test data to it. It doesn't matter how many files are currently open because it uses the FREEFILE function to find a free file number.

```
dim f as integer
f = freefile
open "test.dat" for output as #f
print #f, "this is a test"
close #f
```



FUNCTION Statement

Allows you to define your own subprograms that return a value to the caller.

Syntax

```
FUNCTION name([arg AS type[, arg AS type]...]) AS type
...
name = expr
...
END FUNCTION
```

Remarks

name is the name you assign to the function.

arg is the name of a formal argument to the function. Each argument must have an associated type declaration using the AS keyword.

You may define local variables within your user-defined function. You can use STATIC declarations to preserve the value of individual variables across function calls.

To return a value from the function, use an assignment to the name of the function. The value you assign to the function is remembered until the function ends, at which point it is retrieved and returned to the caller of the function.

Functions cannot be defined within another function definition.

See also

BYVAL, DECLARE, EXIT, STATIC, SUB



Example

This example declares a function that returns its argument multiplied by two and incremented by one.

```
function f(x as integer) as integer
```

```
    f = x*2 + 1
```

```
end function
```

```
print f(2)
```

```
print f(f(7))
```



GET Statement

Reads information from a random-access or binary file into a record variable.

Syntax

```
GET [#]filename, [position], variable
```

Remarks

filename is the number assigned to an open file.

position is the number of the record in a random access file, or the number of the byte in a binary file. Note that unlike some other languages, the first record or byte in the file is number 1, not number 0. If the position is not specified, then the record is read from the current file position.

variable is the name of the variable that receives the returned data. **WARNING:** If you are reading a record from a random access file, you must ensure that the variable is of the correct type, otherwise unpredictable results may occur.

See also

INPUT, OPEN, PUT, TYPE ... END TYPE

Example

This example creates a random access file, writes a record to it from the variable *d*, and reads it back into the variable *z*. It then prints out the contents of *z* to make sure that the operation succeeded.



```
type daterec
  day as integer
  month as integer
  year as integer
end type
dim d as daterec, z as daterec
d.day = 11
d.month = 10
d.year = 1993
open "test.dat" for random as #1 len = len(daterec)
put #1, 1, d
get #1, 1, z
close #1
print z.day, z.month, z.year
```



GETCURRENTDATETIME Function

Gets the current date and time as a DateTime value and places it in the dt variable.

Syntax

```
GETCURRENTDATETIME(dt as DateTime)
```

See Also

FORMATDATETIME, DATETIME

Example

This example shows you how you might use the GetCurrentDateTime function to print the current time in the terminal window.

```
dim currentdate as datetime
getcurrentdatetime (currentdate)
Print "The time is ";formattime ("hh:mm:ss tt",currentdate)
```



GETFIRSTCOUNTRY Function

Fills in a CountryInfo structure with the first country.

Syntax

```
GETFIRSTCOUNTRY (info as CountryInfo) as boolean
```

See Also

GETNEXTCOUNTRY

Example

This example prints a list of country names seen by Windows 95.

```
type countryinfo
    CountryID as integer
    CountryCode as integer
    Name as string*64
end type

dim cinfo as CountryInfo

if GetFirstCountry(cinfo) then
    do
        print cinfo.name
        loop while getnextcountry(cinfo)
    end if
end if
```



GETMODEMCOUNT Function

Returns the number of modems available in a system.

Syntax

```
GETMODEMCOUNT as integer
```

See Also

GETMODEMNAME

Example

This example prints the number of modems defined in a system.

```
print "The number of modems configured in this system is "\  
;getmodemcount
```



GETMODEMNAME Function

Returns the name of modem specified.

Syntax

`GETMODEMNAME (index as integer) as string`

Remarks

This function returns the name of the modem specified by the index parameter. The modems are numbered, starting at zero. If GetModemCount indicates there are three installed modems, they are then numbered 0, 1, and 2. The GetModemName function reads these numbers and returns the modem name.

See Also

`GETMODEMCOUNT`

Example

Here is an example of how you might use this function to print the names of the modems in a defined system.

```
dim count as integer

for count = 0 to getmodemcount -1
    print "one of the modems is a ";getmodemname (count)
next count
```



GETNEXTCOUNTRY Function

Fills in a CountryInfo structure with information on the next country, pass CountryInfo from a previous call to GetFirstCountry.

Syntax

```
GETNEXTCOUNTRY (info as CountryInfo) as boolean
```

See Also

GETFIRSTCOUNTRY

Example

This example prints a list of country names seen by Windows 95.

```
type countryinfo
    CountryID as integer
    CountryCode as integer
    Name as string*64
end type

dim cinfo as CountryInfo

if GetFirstCountry(cinfo) then
    do
        print cinfo.name
        loop while getnextcountry(cinfo)
    end if
end if
```




GETPHONEENTRY Function

Retrieves an entry from a phonebook.

Syntax

GETPHONEENTRY (index as integer, entry as PhoneEntry) as boolean

Remarks

This function retrieves an entry from the phonebook. The phonebook entries are numbered, beginning with zero. If GetPhoneEntryCount returns a value of 10, the entries are numbered 0 through 9. This function returns False if the index is not valid.

See Also

GETPHONEENTRYCOUNT

Example

This is an example of how you might print the systemnames of the entries in the current phonebook

```
dim count as integer
dim entry as phoneentry

for count = 0 to getphoneentrycount - 1
    getphoneentry (count,entry)
    print "entry.name" is "System #";count+1;
next
```



GETPHONEENTRYCOUNT Function

Returns the number of entries in a phonebook.

Syntax

```
GETPHONEENTRYCOUNT as integer
```

See Also

GETPHONEENTRY
GETMODEMCOUNT

Example

This example prints the number of phone entries in the current phonebook.

```
print "The number of phonebook entries is ";getphonebookentrycount
```



GOSUB ... RETURN Statement

Branches unconditionally to the specified line number or label to execute a subroutine.

Syntax

```
GOSUB {line|label}
```

```
.
```

```
label:
```

```
.
```

```
RETURN
```

Remarks

line and *label* indicate the line number or label at which the subroutine should begin executing.

The RETURN statement resumes execution at the statement following the original GOSUB statement.

You cannot use GOSUB to branch into or out of a sub-program or user-defined function.

The SUB and FUNCTION constructs provide a much better method of supporting subprograms than GOSUB and RETURN. The use of the GOSUB and RETURN statements is generally not recommended.

See also

FUNCTION, GOTO, SUB

Example

This example has a very simple subroutine called "printit" that prints the value of *i* and returns.



Script Command Reference

```
dim i as integer
i = 5
gosub printit
i = 9
gosub printit
end
printit:
print i
return
```





GOTO Statement

Branches unconditionally to a specified line or label.

Syntax

```
GOTO {line|label}
```

Remarks

Program execution continues at the referenced line or label, or the first executable statement immediately following the line or label.

You cannot use GOTO to branch into or out of a sub-program or user-defined function.

Proponents of structured programming recommend against using GOTO statements wherever IF statements and DO loops can accomplish the same task; on the grounds that structured code is more efficient and easier to maintain.

See also

FUNCTION, GOSUB, SUB

Example

This example demonstrates a simple loop structure using a GOTO statement.

```
dim i as integer
i = 0
again:
i = i + 1
if i < 10 then goto again
```



HANGUP Statement

Hangs up the modem by sending the modem hangup string, without asking for confirmation.

Syntax

HANGUP

Remarks

This command tells the system to hang up. The hangup command is sent through Windows 95.

See also

BREAK, CARRIER

Example

This example sends a command to log off an on-line service, waits five seconds, then hangs up the modem.

```
send "bye"  
delay 5  
hangup
```



HEX Function

Converts an integer or long integer expression to a hexadecimal (base 16) value.

Syntax

`HEX (number)`

Remarks

number is the numeric variable or expression that HEX converts. The value may be any numeric type — it will be converted to an integer or a long integer. Fractional values are ignored.

See also

OCT

Example

This example prints the hexadecimal representation of the number 42.

```
print hex(42)
```



HOSTECHO Function

Used to turn on and off character echo conventions that are used with the host mode.

Syntax

HOSTECHO [ON | OFF]

Remarks

This command modifies the operation of *QmodemPro* in the following ways:

Incoming data is not displayed on the screen, written to the capture file, or sent to the printer. It is only sent to the script program for processing.

Data that is output to the communications port is automatically echoed to the terminal screen.

When using the SEND command to output data to the communications port, a carriage return/line feed pair is sent at the end of the line if no semicolon is present (this is in contrast to the standard behavior of sending just a carriage return).

See also

DUPLEX

Example

This example shows what will happen when HOSTECHO is turned on. For the best example of how this command works, see the host mode script HOST.QSC.

```
dim name as string
hostecho on
send "What is your first name? ";
```





IF Statement

Makes a decision regarding program flow, based on the result returned by an expression.

Syntax

```
IF expression THEN then-part ELSE else-part
or
IF expression1 THEN
    statements-1
[ELSEIF expression2 THEN
    statements-2]
[ELSE
    statements-n]
END IF
```

Remarks

expression is an expression that yields a result of true (nonzero) or false (zero).

then-part is a set of statements to be executed if *expression* is true.

else-part is a set of statements that will be executed if *expression* is false.

ELSE and ELSEIF are optional. ELSE allows you to execute a set of statements if *expression* is false.

ELSEIF allows you to test for several different conditions within a single IF statement. In the construct above, *expression2* would only be tested if *expression1* was false.

See also

DO ... LOOP, SELECT CASE



Example

This example demonstrates both types of IF statement syntax.

```
dim i as integer
i = 5
if i = 7 then print "is seven" else print "not seven"
if i = 5 then
    print "i is 5"
elseif i = 9 then
    print "i is 9"
else
    print "i is neither 5 nor 9"
end if
```



IMP Operator

IMP performs a bitwise implication operation between its operands.

Syntax

`op1 IMP op2`

Remarks

op1 and *op2* are logical expressions or numeric values of any integral type (byte, integer, or long integer).

This is the logical truth table for the IMP operator:

| a | b | a IMP b |
|---|---|---------|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

See also

AND, EQV, NOT, OR, XOR

Example

This example prints out the truth table above.

```
dim a as integer, b as integer
print "a", "b", "a IMP b"
for a = 0 to 1
  for b = 0 to 1
    print a, b, a IMP b
  next
next
```



INCDATETIME Function

Increments a DateTime value.

Syntax

INCDATETIME(dt1 as DateTime, dt2 as DateTime, days as integer, seconds as integer)

Remarks

Increments the DateTime value dt1 by the number of seconds and days specified the last two parameters, and places the results in the dt2 variable.

Example

This example prints the date seven days from today.

```
dim currentdate as datetime
dim futuredate as datetime

getcurrentdatetime (currentdate)
incdatetime (currentdate,futuredate,7,0)
print "In 7 days, the date will be";formatdate \
    ("ddd, MMMM dd, yyyy",futuredate)
```



INKEY Function

Reads a character from the keyboard, communications port, or a file.

Syntax

INKEY (filenumber)

Remarks

If there is no character ready when reading from the keyboard or communications port, this function returns an empty string.

When reading from a file or communications port, or if there is an ordinary character waiting from the keyboard, this function returns a single-character string containing the character.

When reading from the keyboard, the following strings are returned if the corresponding special key is pressed:

"Tab", "F1", "F2", "F3", "F4", "F5", "F6", "F7", "F8", "F9", "F10", "F11", "F12", "Backspace", "Enter", "Scroll Lock", "Pause", "Gray Insert", "Gray Delete", "Gray Home", "Gray End", "Gray Pageup", "Gray Pagedown", "Gray Up", "Gray Down", "Gray Left", "Gray Right", "Numlock", "Pad /", "Pad *", "Pad -", "Pad +", "Pad Enter", "Pad .", "Pad 0", "Pad 1", "Pad 2", "Pad 3", "Pad 4", "Pad 5", "Pad 6", "Pad 7", "Pad 8", "Pad 9", "Pad Delete", "Pad Insert", "Pad End", "Pad Down", "Pad Pagedown", "Pad Left", "Pad Clear", "Pad Right", "Pad Home", "Pad Up", "Pad Pageup"

See also

INPUT

Example

This example reads a single keypress from the keyboard and prints the resulting string.

```
dim c as string
do
  c = inkey
loop until c <> ""
print "key pressed: "; c
```



INPUT Statement

Captures a line of data from the keyboard, communications port, or a file, and places the data into a string variable.

Syntax

```
INPUT [#filenum,] variable
```

Remarks

filenum is the file number to use.

variable is the variable name into which you want to place the captured data.

See also

GET, INKEY

Example

This example simply reads a line of input from the user and prints it back out again.

```
dim a as string
input a
print a
```



INSTR Function

Searches for the first occurrence of a string of characters within a specified string.

Syntax

```
INSTR([start,] string1, string2)
```

Remarks

start is the position at which to begin the search. This parameter is optional — the default is to start searching at position 1.

string1 is the string to search.

string2 is the text to search for within the string.

INSTR returns the position of the first occurrence of the specified text. If INSTR does not find the specified string, it returns a value of 0.

See also

LEFT, MID, RIGHT

Example

This example looks for the string "Windows 95" within the string "QmodemPro for Windows 95".

```
dim a as string  
a = "QmodemPro for Windows 95"  
print instr(a, "Windows 95")
```



INT Function

Returns the integer or whole number portion of a numeric expression.

Syntax

`INT (expr)`

Remarks

FIX and INT operate the same for positive values, however with negative values their operation is slightly different. FIX returns the next-higher integer with negative values, while INT returns the next lower integer with negative values.

See also

FIX

Example

This example shows how the INT function rounds negative numbers down to the next lower integer. In this example the output will be 3 and -5.

```
print int(3.7), int(-4.9)
```




INTEGER Type

Used to declare a variable that can handle integer numbers.

Remarks

Variables of integer type can hold values that range from -2147483648 to 214783647.

See also

BYTE, DIM, LONG, REAL, SHORT, TYPE

Example

This example declares a variable of type INTEGER and assigns a value to it.

```
dim i as integer
i = 500000
print i
```



KILL Statement

Deletes a file from disk.

Syntax

KILL filename

Remarks

filename is the name of the file to delete. DOS wildcards * and ? are not supported.

You cannot delete an open file.

This statement is identical to the script DEL command.

See also

DEL, RMDIR

Example

This example removes the file "test.dat" from the current directory.

```
kill "test.dat"
```



LASTCONNECTPASSWORD Function

This function makes the last password entry available.

Syntax

`LASTCONNECTPASSWORD`

Remarks

The password returned corresponds to the dialing directory entry that was used for the most recent connection.

See also

DIAL, LASTCONNECTUSERID

Example

```
waitfor "password?"  
send lastconnectpassword
```



LASTCONNECTUSERID Function

This function returns the current user id.

Syntax

LASTCONNECTUSERID

Remarks

The user id returned corresponds to the dialing directory entry that was used for the most recent connection.

See also

DIAL, LASTCONNECTPASSWORD

Example

```
waitfor "name:"  
send lastconnectuserid
```



LCASE Function

Returns a copy of a string with all upper case characters converted to lower case.

Syntax

`LCASE(string)`

Remarks

string can be any string expression.

This operation is useful for making case insensitive comparisons of text. The UCASE function operates similarly, but converts the specified text to upper case.

See also

UCASE

Example

This example demonstrates using the LCASE function to print a lower case version of a string.

```
dim a as string
a = "QmodemPro for Windows 95"
print lcase(a)
```



LEFT Function

Returns a string consisting of a specified number of characters starting at the left (beginning) of a string.

Syntax

`LEFT(string, num)`

Remarks

string is any string expression.

num is any number in the range 0 through 32767.

If there are fewer than *num* characters in *string*, the entire string will be returned without any padding.

See also

INSTR, MID, RIGHT

Example

This example uses the LEFT function to print the first word in the string "QmodemPro for Windows 95".

```
dim a as string
a = "QmodemPro for Windows 95"
print left(a, 9)
```



LEN Function

Returns the number of characters in a string, or returns the size in bytes of a user defined type.

Syntax

```
LEN(string)
or
LEN(typename)
```

Remarks

string is any string expression. Used in this way the function will return the number of characters in the string.

typename is the name of any user defined type. Used in this way the function will return the number of bytes taken up by a variable of the indicated type. This is useful when used with the LEN = clause in the OPEN statement.

See also

INSTR, LEFT, MID, OPEN, RIGHT

Example

This example prints the length of the string "QmodemPro for Windows 95". See the OPEN script command for an example of how to use LEN with OPEN.

```
dim a as string
a = "QmodemPro for Windows 95"
print len(a)
```



LET Statement

Assigns the value of an expression to a variable.

Syntax

```
[LET] var = expr
```

Remarks

The LET keyword is an assignment statement — it allows you to assign values to variables.

You must declare a variable using DIM before you can assign a value to it.

The keyword itself is optional, so statements such as

```
LET tries = 1
```

is functionally identical to

```
tries = 1
```

The LET keyword is usually omitted in all cases.

See also

DIM, TYPE

Example

This example shows how to declare a variable, assign a value to it, and print its value on the screen.

```
dim i as integer  
i = 5  
print i
```




LOADPHN Statement

Loads a new phonebook.

Syntax

```
LOADPHN filename
```

Remarks

This command loads a new phone book just like the phonebook's **File/Open** command would.

See also

DIAL

Example

This example shows how to load a new phone book and dial its first entry.

```
loadphn "test.phn"  
dial entry 0
```





LOADTRANSLATETABLE Function

Loads a translation table.

Syntax

`LOADTRANSLATETABLE filename`

Remarks

This command loads a translation table just like the the Emulation property sheet would.

Example

This example shows how print out verification of a loaded translation table "NewTrans".

```
If LoadTranslateTable ("NewTrans") then
    print "New Translation Table Loaded."
else
    print "Translation Table failed to load."
End If
```



LOC Function

Returns the current position of a pointer in an open file, indicating the point where the next read or write operation will take place.

Syntax

`LOC(filename)`

Remarks

filename is the number assigned to the open file.

If the file is opened for sequential or binary access, LOC returns the current file position in bytes.

If the file is opened for random access, LOC returns the current record number based on the record size specified in the `LEN =` clause in the OPEN statement.

See also

GET, OPEN, PUT, SEEK

Example

This example writes an integer to a file and reports the new file position. In this case the file position after writing will be 2.

```
dim i as integer
i = 5
open "test.dat" for random as #1 len = len(integer)
put #1, 1, i
print loc(1)
close #1
```



LOCATE Statement

Positions the cursor on the screen.

Syntax

```
LOCATE row, column
```

Remarks

row is the number of the row at which the cursor is positioned. Rows are numbered 1 through the maximum number of rows on the screen.

column is the number of the column at which the cursor is positioned. Columns are numbered 1 through the number of columns on the screen.

See also

CSRLIN, POS

Example

This example places the cursor on row 5, column 5, and writes a string indicating that fact.

```
locate 5, 5  
print "this is at position 5, 5"
```



LOF Function

Returns the number of records in an open file.

Syntax

`LOF(filename)`

Remarks

filename is the number under which the file was opened.

If the file is opened for sequential or binary access, LOF returns the size of the file in bytes.

If the file is opened for random access, LOF returns the size of the file based on the record size specified in the `LEN =` clause in the `OPEN` statement.

See also

`LOC`, `OPEN`

Example

This example opens a file for sequential access and outputs the length of the file.

```
open "test.dat" for input as #1
print lof(1)
close #1
```





LOG Function

Returns the natural logarithm of a number.

Syntax

`LOG(expression)`

Remarks

expression is any numeric expression.

A natural logarithm is the power to which the constant e (about 2.718282) must be raised to obtain a given number. This should not be confused with common logarithms, which are based on 10 rather than e .

If you try to take the logarithm of zero or a negative number, the `ERR_MATH` error will be generated. You can catch this error with the `CATCH` statement.

See also

`CATCH`, `EXP`

Example

This example prints the logarithm of the number 6.

```
print log(6)
```



LOGFILE Statement

Turns on or off the log file.

Syntax

```
LOGFILE {ON | OFF}
```

Remarks

This command turns on or off the log file just like the **File/Log Toggle** command from the main terminal menu. The log file name is defined in **Options/Files/File Definitions**.

See also

CAPTURE

Example

This example turns on the log file, uploads a file, then turns it off again.

```
logfile on  
call upload "c:\QMWIN95\test.dat", zmodem  
logfile off
```



LONG Type

Used to declare a variable that can handle integer numbers larger than those handled by the SHORT type.

Remarks

Variables of the long type can hold values that range from -2147483648 to 2147483647.

See also

BYTE, DIM, INTEGER, REAL, TYPE

Example

This example declares a variable of type long, assigns a number to it, and prints out the number.

```
dim i as long
i = 500000
print i
```




LOOP Statement

Used to mark the end of a DO ... LOOP statement. See the DO statement for more information.





LTRIM Function

Trims leading spaces (spaces on the left) from a string expression.

Syntax

LTRIM(string)

Remarks

string is any string expression.

See also

RTRIM

Example

This example trims the leading spaces off the given string and prints the results within angle brackets.

```
dim a as string
a = "  QmodemPro for Windows 95  "
print ">"; ltrim(a); "<"
```





MAXIMIZE Statement

Causes *QmodemPro for Windows 95* to maximize its application window on the Windows 95 desktop.

Syntax

MAXIMIZE

Remarks

The *QmodemPro for Windows 95* application window is maximized and brought to the front of the Windows 95 desktop.

See also

ACTIVATE, MINIMIZE, MOVE, SIZE

Example

This example causes the *QmodemPro for Windows 95* application to maximize its window.

MAXIMIZE





MID Function

Retrieves a substring from an arbitrary position in another string.

Syntax

```
MID(string, start[, num])
```

Remarks

string is any string expression.

start is the position of the first character to copy.

num (optional) is the number of characters to return from within the string expression. If the number is omitted, the remainder of the string is returned.

If there are not enough characters in the string to supply enough characters in the result, a shorter string than that asked for will be returned.

See also

LEFT, RIGHT

Example

This example prints some characters from the middle of a given string.

```
dim a as string  
a = "QmodemPro for Windows 95"  
print mid(a, 7, 11)
```



MINIMIZE Statement

Causes *QmodemPro for Windows 95* to minimize its application window on the Windows 95 desktop. Minimizing an application causes it to appear only on the taskbar.

Syntax

MINIMIZE

Remarks

The *QmodemPro for Windows 95* application window is minimized. Any other Windows 95 opened by *QmodemPro for Windows 95* (phonebook, GIF viewer, editor, and so on) will disappear until the application is restored.

See also

ACTIVATE, MAXIMIZE, MOVE, SIZE

Example

This example causes the *QmodemPro for Windows 95* application to minimize itself.

MINIMIZE



MKDIR Statement

Creates a directory on the disk.

Syntax

MKDIR *directory*

Remarks

directory is the name of the directory to create.

When creating a new directory, each of the directories leading up to the last directory name must already exist. If you try to create the directory "c:\abc\def" and the directory "c:\abc" does not already exist, you will get an ERR_PATH error.

See also

CHDIR, CURDIR, RMDIR

Example

This example makes a new directory called "test" under the "c:\QMWIN95" directory.

```
mkdir "c:\QMWIN95\test"
```





MOD Operator

Returns the remainder of a division between two integers.

Syntax

```
op1 MOD op2
```

Remarks

op1 and *op2* can be of any integer numeric type (byte, integer, long).

If *op2* is zero the ERR_MATH error will be generated.

Example

This example prints 144, which is the remainder after 400 is divided by 256.

```
print 400 mod 256
```



MOUSECLICK Statement

Used to simulate a mouse click for the RIPscrip emulation.

Syntax

MOUSECLICK *x*, *y*

Remarks

This statement simulates a mouse click on an area of the screen when using the RIPscrip emulation. The *x* and *y* parameters are the horizontal and vertical coordinates of the mouse click. This command is generated by Quicklearn when using the RIPscrip emulation.

If the RIPscrip emulation is not active, this command has no effect.

See also

EMULATION

Example

This example simulates a mouse click at position 10, 10 on the screen.

```
mouseclick 10, 10
```




MOVE Statement

Used to move the *QmodemPro for Windows 95* application window on the Windows 95 desktop.

Syntax

MOVE *x*, *y*

Remarks

x is the horizontal coordinate of the new position of the window. X coordinate values range from 0 to the width of your screen minus one.

y is the vertical coordinate of the new position of the window. Y coordinate values range from 0 to the height of your screen minus one.

If you are using standard VGA with a 640x480 screen then the X values can range from 0 through 639 and Y values can range from 0 through 479.

See also

ACTIVATE, MAXIMIZE, MINIMIZE, SIZE

Example

This example moves the *QmodemPro for Windows 95* application window so its upper left hand corner is at position (300, 200).

MOVE 300, 200



MSGBOX Statement

Used to pop up a simple message box with a message and an OK button.

Syntax

`MSGBOX string`

Remarks

This statement pops up a simple message box with an OK button and waits for the user to press the OK button before continuing.

See also

DIALOG, DIALOGBOX

Example

This example pops up a simple message box on the screen.

```
msgbox "Hello world!"
```



NAME Statement

Renames or moves a file.

Syntax

```
NAME oldfilespec AS newfilespec
```

Remarks

oldfilespec is the current file name.

newfilespec is the new file name.

This command works in a similar way to the DOS RENAME command, with the added ability to move a file, if the new filename includes a path.

You cannot use the NAME command to rename a directory.

If an error occurs during the rename operation, the ERR_FILERENAME error will be generated.

See also

DEL, FINDFIRST, FINDNEXT, KILL

Example

This example renames the file "test.fil" to the file "test.dat".

```
name "test.fil" as "test.dat"
```



NEXT Statement

Marks the end of a FOR ... NEXT loop. See the FOR command for more information and examples.





NOT Operator

Performs a bitwise logical NOT operation.

Syntax

`NOT op`

Remarks

This operator takes the binary representation of *op* and reverses the status of each bit in the representation.

When using NOT in an IF statement, the value FALSE (zero) will be converted to TRUE (-1) and vice versa.

See also

AND, EQV, IF, IMP, OR, XOR

Example

This example prints out the result of using NOT on various values.

```
print not true  
print not false  
print not 1
```



OCT Function

Converts an integer expression to an octal (base 8) representation.

Syntax

`OCT(expr)`

Remarks

The expression passed to this function will be converted to a long integer before being converted to an octal representation.

See also

HEX, STR, VAL

Example

This example prints the octal representation of the number 42.

```
print oct(42)
```



OPEN Statement

Opens a file so the program can perform input and output operations.

Syntax

```
OPEN file FOR accessmode AS [#]filenum [LEN = reclen]
```

Remarks

file is the name of the file to open.

accessmode specifies the way the program will write to or read from file: INPUT, OUTPUT, APPEND, RANDOM and BINARY.

filenum is the file number to assign to the file.

reclen is the length of a record in a sequential or random-access file, in the range 1 through 32767.

See also

CLOSE, FREEFILE

Example

This example opens a file for sequential output and writes a string of test data to it.

```
open "test.dat" for output as #1
print #1, "this is a test"
close #1
```



OPENSERIALPORT Function

Opens a serial port.

Syntax

`OPENSERIALPORT(portname as string)`

Remarks

This function opens a serial port. The valid names are generally either "COM1" or "COM2", but you may use other names, depending on the hardware and drivers you have installed. When using this function, do not place a colon (:) after the port name.

If the port is successfully opened, this function returns True.

See Also

`OpenTcpipPort`

`ClosePort`

Example

Here is an example of how you might open COM1, send a dial command, and then close the port. This example includes commands to print a message to the screen when the port is opened and closed.

```
if openserialport ("COM1") then print "COM 1 opened."  
SEND "ATDT 1-805-873-2400 ^M"  
Closeport  
print "port closed."
```




OPENTCPIPPORT Function

Opens a connection using TCP/IP protocol.

Syntax

`OPENTCPIPPORT(host as string, port as integer, telnet as boolean)`

Remarks

This function opens a TCP connection to a specific port on another host using the TCP/IP protocol. The host parameter is either the name of the host (rs.internic.net, for example) or its IP address (such as 198.41.0.6).

The port parameter is optional, and defaults to 23, the Telnet port.

The Telnet parameter is also optional, and defaults to True, which means that Telnet protocol will be used during the connection. Passing False as this parameter will open the port in "raw" mode, where no Telnet-specific processing will take place.

If the port is successfully opened, this function returns True.

See Also

`OpenSerialPort`

`ClosePort`

Example

Here is an example of how this function could be used to open a TCP/IP port and connect to MSI HQ BBS.

```
if OpenTCPIPPort("bbs.mustnag.com") then print "Connected to Mustang  
Software BBS"
```



OR Operator

OR performs a bitwise logical or operation between its operands.

Syntax

```
op1 OR op2
```

Remarks

op1 and *op2* are logical expressions or numeric values of any integral type (byte, integer, or long integer).

This is the logical truth table for the OR operator:

| a | b | a OR b |
|---|---|--------|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

See also

AND, EQV, IMP, NOT, XOR

Example

```
print "5 or 6 is 7: "; 5 or 6
```



PAUSE Statement

Used to suspend script execution for a certain time interval.

Syntax

```
PAUSE time
```

Remarks

time is the amount of time to suspend execution, expressed in seconds. If you want to delay for less than a second, use ordinary decimal notation.

This command is identical to the script DELAY command.

See also

DELAY, WAITFOR, WHEN QUIET, WHEN TIME

Example

This example sends "atz" to initialize the modem, pauses for half a second, and sends a command to dial the modem.

```
send "atz"  
pause 0.5  
send "atdt5551212"
```



PLAY Statement

Used to play a .wav file using the Windows 95 multimedia services.

Syntax

PLAY filename

Remarks

If Windows 95 cannot find the named .wav file to play, it will sound a default beep (which may be another .wav file). The .wav file is played in "asynchronous" mode which means that Windows 95 will not wait for the sound to finish, and will continue execution with the next script command immediately.

See also

BEEP, SOUND

Example

This example plays the sound in the file "soundfil.wav".

```
PLAY "soundfil.wav"
```



POS Function

Reports the current horizontal coordinate position (column number) of the cursor.

Syntax

`POS`

Remarks

The return value of this function ranges from 1 to the maximum number of columns on the screen (either 80 or 132).

See also

`CSRLIN`, `LOCATE`

Example

This example prints the current horizontal cursor position.

```
print pos
```





PRINT Statement

Outputs data to the display, communications port, or a file.

Syntax

```
PRINT [#filename, ][expression[[:],]expression ...]][:],)
```

Remarks

expression is an expression of any type except a user defined type.

Multiple items can be separated with semicolons (to display the next item immediately after the previous item), or commas (to display the next item in the next 14-character wide "print zone"). A semicolon at the end of the line will suppress the automatic carriage return and line feed that occurs after printing.

The PRINT statement by itself moves the cursor to the beginning of the next line.

See also

LOCATE, TAB

Example

This example shows the famous "Hello world" program in its entirety.

```
print "Hello, world!"
```



PRINTER Statement

Turns the printer toggle on or off.

Syntax

```
PRINTER onoff
```

Remarks

This command turns the printer toggle on and off. When on, all incoming data is echoed to the printer as well as the screen. The destination of the printer data is controlled by the "Print file" option in Options/Files/File definitions.

See also

CAPTURE

Example

This example shows how to turn the printer on, wait for some specified data from the port, then turn the printer off again.

```
print on  
send  
waitfor "Ready"  
print off
```



PUT Statement

Writes data to a random access or binary file, from record variables defined by a TYPE ... END TYPE statement.

Syntax

PUT [#]filename, [position], variable

Remarks

filename is the file number assigned to the open file.

position is the number of the random access file record, or binary file byte to begin writing. Note that unlike some other languages, the first record or byte in the file is number 1, not number 0. If this position is not specified, then the record is written to the current file position.

variable is the name of the variable that contains the data to place in the file.

See also

GET, INPUT, OPEN, TYPE



Example

This example creates a random access file, writes a record to it from the variable `d`, and reads it back into the variable `z`. It then prints out the contents of `z` to make sure that the operation succeeded.

```
type daterec
    day as integer
    month as integer
    year as integer
end type
dim d as daterec, z as daterec
d.day = 11
d.month = 10
d.year = 1993
open "test.dat" for random as #1 len = len(daterec)
put #1, 1, d
get #1, 1, z
close #1
print z.day, z.month, z.year
```



REAL Type

Used to declare a variable that can handle real (floating-point) numbers.

Remarks

The range of REAL numbers is $-3.4\text{e}38$ to $3.4\text{e}38$.

See also

BYTE, DIM, INTEGER, LONG, STRING, TYPE

Example

This example declares a variable of type real, assigns a value to it, and prints out the value.

```
dim x as real
x = 1.5
print x
```



RECEIVE Statement

Captures a line of data from the communications port (by default) and places the data into a string variable.

Syntax

```
RECEIVE [#filenum,] var
```

Remarks

This statement is identical to the INPUT statement except that if a file number is not specified, the data is input from the communications port instead of the keyboard.

See also

INPUT

Example

This example reads a line of input from the communications port.

```
dim s as string  
receive s
```



RECEIVEFILE Function

Used to receive a file or files from a remote computer.

Syntax

`RECEIVEFILE(filename, protocol)`

Remarks

This function initiates a file transfer to receive files from a remote computer. At the time this command is executed, the remote computer must already have started the file transfer. If you are connecting to a bulletin board system (BBS) then your script should already have sent the command to the BBS that will start the file transfer.

protocol is one of the following predefined constants:

ASCII, XMODEM, XMODEMCRC, XMODEM1K, XMODEM1KG,
YMODEM, YMODEMG, ZMODEM, KERMIT

For the first five protocols, the *filename* parameter must specify an actual file name in which to place the received file. The ASCII and Xmodem variant protocols do not supply a filename, so one must be supplied in the DOWNLOAD function.

For the last four protocols, the *filename* parameter should be the name of a directory in which to place the received files. If this parameter is an empty string ("") then the download directory specified in **Options/Files/Path Definitions** will be used.

The RECEIVEFILE function returns zero if the file transfer was successful. If the transfer was unsuccessful, RECEIVEFILE returns the error code describing the error. For a list of error codes see Chapter 4.

This function is identical to the DOWNLOAD function.

See also

DOWNLOAD, SENDFILE, UPLOAD



Example

This example receives a file using the Zmodem protocol, assuming the remote computer has already started the transfer.

```
if receivefile("", Zmodem) = 0 then
  print "file transfer ok!"
end if
```





REM Statement

Allows you to include a comment, or non-executing text for your own reference, in a program.

Syntax

```
REM comment  
or  
' comment  
or  
// comment
```

Remarks

The apostrophe ' character is a synonym for the REM statement.

Either variation of the statement will cause the compiler to ignore all text on a line following the ' or REM statement.

When adding a comment to a line of executable source code, the REM must be preceded by a colon (;). A colon is not required if you are using the apostrophe.

Comments do not affect the size or execution speed of the compiled script.

Example

This example shows two comment lines and one line that is not a comment.

```
rem This is a comment.  
' This is another comment, like the above line.  
print "This is not a comment."
```





REMOVEPHONEENTRY Statement

Removes a phonebook entry.

Syntax

```
RemovePhoneEntry(entry as PhoneEntry)
```

Remarks

This function removes the phonebook entry specified by the entry parameter. The function returns True if the entry was removed successfully.

See Also

AddPhoneEntry, UpdatePhoneEntry



Example

This is an example of how you might remove all occurrences of "MUSTANG" from your currently open phonebook.

```
dim count as integer
dim entry as phoneentry
count = 0
do while count < getphoneentrycount
    print "Number of phone entries is ";getphoneentrycount
    getphoneentry (count,entry)
    print "Removing Entry #";count;" : ";entry.name
    if instr (ucase(entry.name), "MUSTANG") then
        if removephoneentry (entry) then
            print "Removed Successfully"
        else
            print "Failed Removal"
        end if
    else
        print "Didn't find Mustang in ";entry.name
        count = count + 1
    end if
loop
```





RESET Statement

Description

Closes all open files.

Syntax

RESET

Remarks

The RESET statement works the same way as the CLOSE statement without parameters. The functions CLOSE, END, STOP, and SYSTEM also close any open files.

See also

CLOSE, END, STOP, SYSTEM

Example

This example opens a file for input, then closes all open files.

```
open "test.dat" for input as #1  
reset
```



RESETEMULATION Statement

Resets the current emulation.

Syntax

RESETEMULATION

Remarks

This command resets the operation of the currently selected emulation. It is identical to the Reset Emulation command on the Terminal menu.

See also

EMULATION

Example

This example shows how the RESETEMULATION command might be used.

hangup

resetemulation



RETURN Statement

Returns from a subroutine started with the GOSUB statement. See the GOSUB statement for more information and examples.



RIGHT Function

Returns a string consisting of a specified number of characters starting at the right (end) of a string.

Syntax

`RIGHT(string, num)`

Remarks

string is any string expression.

num is any number in the range 0 through 32767.

If there are fewer than *num* characters in the string, the entire string is returned even though it is shorter than *num*.

See also

INSTR, LEFT, MID

Example

This example shows how the RIGHT function can be used to extract the rightmost characters from another string.

```
dim a as string
a = "QmodemPro for Windows 95"
print right(a, 7)
```



RMDIR Statement

Removes a directory from a disk.

Syntax

```
RMDIR directory
```

Remarks

directory is the name of the directory to remove.

You cannot remove a directory if it still contains files.

If the directory cannot be removed, the ERR_PATH error is generated. Use the CATCH statement to respond to this error.

See also

CHDIR, KILL, MKDIR

Example

This example removes the directory "c:\QMWIN95\test", assuming it is empty.

```
rmdir "c:\QMWIN95\test"
```



RND Function

Returns a pseudo-random real number between greater than or equal to 0 and less than 1.

Syntax

`RND [(number)]`

Remarks

If *number* is omitted or greater than zero, the next random number in sequence is generated.

If *number* is less than zero, RND returns the same random number every time, depending on the value of *expr*.

If *number* is zero, the last random number generated is returned.

Example

This example shows the three ways of using the RND function.

```
print rnd(-0.5)
print rnd
print rnd(0)
```





RTRIM Function

Trims trailing spaces (spaces on the right) from a string expression.

Syntax

RTRIM(string)

Remarks

string is any string expression. Any trailing spaces are removed from the string and the result is returned.

See also

LTRIM

Example

This example shows how the RTRIM function can be used to trim trailing spaces from a string.

```
dim a as string
a = "  QmodemPro for Windows 95  "
print ">"; rtrim(a); "<"
```



SCREEN Function

Returns the character or color attribute at a particular screen position.

Syntax

`SCREEN(x, y [, attr])`

Remarks

Returns the character or attribute (color) at a particular screen position. The screen position is given by the *x* and *y* parameters and ranges from 1 to the width or height of the terminal screen.

If the *attr* parameter is omitted or is zero, this function returns the ASCII value of the character on the screen at the given position. If the *attr* parameter is one, the return value is the attribute of the character on the screen at the given position.

The attribute returned is defined by the following formula:

$$b * 16 + f$$

where *b* is the background color and *f* is the foreground color, as listed under the `COLOR` statement.

See also

`COLOR`

Example

This example clears the screen, writes "Hi" in gray on blue, and prints the ASCII value of "H" followed by the color value 71.

```
cls
color 7, 4
print "Hi"
print screen(1, 1), screen(2, 1, 1)
```




SCROLLBACK Statement

Turns scrollbar mode on or off.

Syntax

```
SCROLLBACK onoff
```

Remarks

This command turns the scrollbar mode on or off. The operation of the script is not affected while in scrollbar mode (ie. the script continues to execute).

See also

CAPTURE, SCROLLBACKRECORD

Example

This example shows how to capture some data, then automatically go to scrollbar mode to review it.

```
send  
waitfor "Command"  
scrollback on
```



SCROLLBACKRECORD Function

Used to get or set the current state of the scrollbar record toggle.

Syntax

`SCROLLBACKRECORD`

or

`SCROLLBACKRECORD (onoff)`

Remarks

There are two forms to the SCROLLBACKRECORD function. The first form takes no arguments and simply returns the current setting. The second form sets the state of the toggle and returns the previous state.

In both the parameter and the return value, a nonzero value means scrollbar record mode is turned on. A zero value means scrollbar record mode is turned off.

When scrollbar record mode is on, incoming data is captured to the scrollbar buffer for later review. When scrollbar record mode is turned off, data is not copied to the scrollbar buffer.

See also

CAPTURE, SCROLLBACK

Example

This example shows how the SCROLLBACKRECORD function might be used to automatically capture some data.

```
scrollbackrecord on
send
waitfor "End of data"
scrollbackrecord off
```



SEEK Statement

Sets the current position in an open file for the next I/O operation.

Syntax

```
SEEK [#]filename, position
```

Remarks

filename is the number allocated to the open file.

position is the number of the record or byte to be accessed. Note that unlike many programming languages, the records and bytes in a file are numbered starting at 1 rather than at 0.

See also

GET, LOC, OPEN, PUT

Example

This example reads from "c:\autoexec.bat" the string starting at offset 50.

```
dim s as string
open "c:\autoexec.bat" for input as #1
seek #1, 50
input #1, s
close #1
```



SELECT CASE Statement

Allows a number of expressions to be compared, executing statements based on the results of the comparison.

Syntax

```
SELECT CASE expression
CASE case-condition[, case-condition ...]
    [statements]
[CASE case-condition[, case-condition ...]
    [statements]]
[CASE ELSE
    [statements]]
END SELECT
```

Remarks

expression is a numeric or string expression.

case-condition is a condition in one of the following forms:

expression

expression TO *expression*

IS *relational-operator expression*

If the *expression* matches the *case-condition*, the statements matching the corresponding CASE are executed. Control then passes to the first statement following END SELECT.

If none of the *case-conditions* matches and there is a CASE ELSE clause, the statements within the CASE ELSE clause are executed.

See also

IF



Example

This example tests the numbers 0 through 11 with a SELECT CASE statement and prints the results.

```
dim i as integer
for i = 0 to 11
  select case i
    case 1
      print "i is 1"
    case 2 to 9
      print "i is between 2 and 9 inclusive"
    case is >= 10
      print "i is greater than or equal to 10"
    case else
      print "i must be zero or negative"
  end select
next i
```



SEND Statement

Outputs data to the communications port.

Syntax

```
SEND [expression[[:|,]expression ...]][:|,]
```

Remarks

expression is an expression of any type except a user defined type.

Multiple items can be separated with semicolons (to display the next item immediately after the previous item), or commas (to display the next item in the next 14-character wide "print zone").

A semicolon at the end of the line will suppress the automatic carriage return after the transmitted data.

The SEND statement by itself sends only a carriage return.

See also

LASTCONNECTPASSWORD, LASTCONNECTUSERID, PRINT

Example

This example shows how the SEND command may be used to send various data to the modem.

```
send "bob"           ' sends "bob" followed by Enter
send "g";            ' sends "g" without an Enter
send lastconnectuserid
                     ' sends the UserId corresponding
                     ' to the phone directory entry
                     ' you are currently connected to
```



SENDFILE Function

Used to send files to a remote computer.

Syntax

`SENDFILE(filename, protocol)`

Remarks

This function initiates a file transfer to send files to a remote computer. At the time this command is executed, the remote computer must already have started the file transfer. If you are connecting to a bulletin board system (BBS) then your script should already have sent the command to the BBS that will start the file transfer.

The protocol is one of the following predefined constants:

ASCII, XMODEM, XMODEMCRC, XMODEM1K, XMODEM1KG,
YMODEM, YMODEMG, ZMODEM, KERMIT

The first five protocols require a single file name in the filename parameter. This file name indicates the file to send.

The last four protocols can accept more than just one file in the filename parameter — separate multiple filenames with spaces.

The SENDFILE function returns zero if the file transfer was successful. If the transfer was unsuccessful, SENDFILE returns the error code describing the error. For a list of error codes see Chapter 4.

This function is identical to the UPLOAD function.

See also

DOWNLOAD, RECEIVEFILE, UPLOAD



Example

This example shows how to send a file using the Zmodem protocol, assuming the remote computer has been told to accept a file transfer.

```
if sendfile("c:\QMWIN95\test.dat", Zmodem) = 0 then
  print "file transfer ok!"
end if
```





SETCOMM Statement

Sets the communications parameters for serial ports only without changing the active modem.

Syntax

SETCOMM *commsettings*

Remarks

The *commsettings* parameter should be a string in the following format:

"baudrate,DPS"

baudrate is the baud rate.

D is the number of data bits.

P is the type of parity: N for None, E for Even, O for Odd, M for Mark, or S for Space.

S is the number of stop bits.

Example

This example sets the communications port to 19200 baud, 8 data bits, no parity bit, and one stop bit.

setcomm "19200,8N1"



SETDTR Statement

Sets the DTR (Data Terminal Ready) signal high (ON) or low (OFF).

Syntax

`SETDTR on | off`

Remarks

Most modems will disconnect when the DTR signal is lowered. This may be more reliable than using the "hangup" command.

See also

HANGUP

Example

This example sends a command to log off an on-line service, waits five seconds, then hangs up the modem.

```
send "bye"  
delay 5  
setdtr off
```



SGN Function

Returns an integer indicating the sign of a number.

Syntax

`SGN(expr)`

Remarks

If `expr` is greater than zero, the return value is 1. If `expr` is less than zero, the return value is -1. If `expr` is equal to zero, the return value is zero.

See also

ABS

Example

This example shows what happens to a negative number, zero, and a positive number with the SGN function.

```
print sgn(-5), sgn(0), sgn(3)
```



SHELL Statement

Runs a DOS command or other executable program or batch file from a script.

Syntax

SHELL [*command*]

Remarks

command is a string expression containing an executable DOS or Windows 95 command.

See also

END, SYSTEM

Example

This example runs Checkdisk.

```
shell "CHKDSK.EXE "
```



SHORT Type

Used to declare a variable that can handle short numbers.

Remarks

Variables of integer type can hold values that range from -32768 to 32767.

See also

BYTE, DIM, LONG, REAL, SHORT, TYPE

Example

This example declares a variable of type SHORT and assigns a value to it.

```
dim i as short
i = 5000
print i
```



SIN Function

Returns the sine of an angle.

Syntax

`SIN(angle)`

Remarks

angle is the measurement of an angle expressed in radians. You can compute radians to degrees by multiplying by $180/\pi$ (π is approximately 3.14159).

See also

ATN, COS, TAN

Example

This example prints the sine of 1 radian.

```
print sin(1)
```



SIZE Statement

Used to resize the *QmodemPro for Windows 95* application window on the Windows 95 desktop.

Syntax

SIZE width, height

Remarks

width is the new width of the window on the desktop. Width values range from 0 to the width of your screen.

Height is the new height of the window on the desktop. Height values range from 0 to the height of your screen.

If you are using standard VGA with a 640x480 screen then the width values can range from 0 through 640 and height values can range from 0 through 480.

See also

ACTIVATE, MAXIMIZE, MINIMIZE, MOVE

Example

This example changes the size of the *QmodemPro for Windows 95* application window to be 400 pixels wide and 300 pixels high.

```
SIZE 400, 300
```





SOUND Statement

Generates a tone of a specific frequency and duration.

Syntax

SOUND frequency, duration

Remarks

This statement generates a tone of a specific frequency and duration. The frequency is specified in hertz (cycles per second) and the duration is specified in seconds.

See also

BEEP, PLAY

Example

This example sounds a 1000 Hz tone for 2/10 of a second.

SOUND 1000, 0.2



SPACE Function

Returns a string consisting of a specified number of spaces.

Syntax

`SPACE (number)`

Remarks

number is the number of spaces to return.

This function is identical to the SPC function.

See also

SPC, TAB

Example

This example prints two words separated by 20 spaces.

```
print "here"; space(20); "there"
```





SPC Function

Returns a string consisting of a specified number of spaces.

Syntax

`SPC (number)`

Remarks

number is the number of spaces to return.

This function is identical to the SPACE function.

See also

SPACE, TAB

Example

This example prints two phrases separated by 30 spaces.

```
print "neither here"; spc(30); "nor there"
```



SPLITSCREEN Statement

Turns split screen mode on or off.

Syntax

SPLITSCREEN *onoff*

Remarks

This command turns the split screen mode on or off. The operation of the script is not affected while in split screen mode (ie. the script continues to execute).

See also

SCROLLBACK

Example

This example shows how to turn on and off the split screen mode from a script.

```
splitscreen on
```

```
splitscreen off
```



SQR Function

Returns the square root of a numeric expression.

Syntax

`SQR (expression)`

Remarks

expression must evaluate to a number greater than or equal to zero.

If the expression is less than zero, SQR will generate the `ERR_MATH` error. This error can be caught with the `CATCH` statement.

See also

`EXP`, `LOG`

Example

This example prints the square root of 9.

```
print sqr(9)
```



STAMP Statement

Used to write a string of text to the log file, if it is open.

Syntax

```
STAMP string
```

Remarks

string is a string that is written to the log file. If the log file is not currently open, this statement has no effect.

See also

CAPTURE, LOGFILE

Example

This example opens the log file, writes a stamp string to it, and closes the log file.

```
logfile on  
stamp "This is a stamped string."  
logfile off
```





STATIC Statement

Used to declare variables in a subroutine or function that retain their values even after the subroutine or function has returned to its caller. The variables can be used when the subroutine or function is called again without being reinitialized to zero or a blank string.

Syntax

```
STATIC var([[lowerbound TO] upperbound]) [AS type][, var([[lowerbound TO] upperbound]) [AS type]...]
```

Remarks

The syntax of the STATIC statement is identical to that of the DIM statement. For a complete discussion of variable declarations please see the DIM statement.

See also

DIM

Example

This example shows how a STATIC variable might be used to count the number of times a function has been called.

```
declare sub test
call test
call test

sub test
  static i as integer
  i = i + 1
  print "test has been called "; i; " times."
end sub
```





STOP Statement

Terminates execution of a script.

Syntax

STOP

Remarks

The **STOP** statement is similar to the **END** statement except that it puts a warning message on the screen after the script has terminated.

See also

END

Example

This example uses **STOP** to terminate a loop.

```
dim i as integer
i = 0
do
    i = i + 1
    if i > 99 then stop
loop
```



STR Function

Converts a number to a string representation of the number.

Syntax

`STR(number)`

Remarks

This function returns the string representation of *number*.

This function is the opposite of the VAL function, which converts a number in string format to an integer.

See also

VAL

Example

This example uses the STR function to convert a number to a string and count the number of digits in the number.

```
dim a as string
a = str(47)
print a; "is "; len(a); " digits long."
```




STRING Function

Repeats a character a specified number of times, and returns the results as a string.

Syntax

`STRING(number, code)`

or

`STRING(number, string)`

Remarks

number is the number of characters to output, in the range 0 to 32767.

code is the ASCII code for the character you want, in the range 0 to 255.

In the second syntax, *string* is a string and the STRING function returns the first character of *string* repeated *num* times.

See also

CHR, SPACE

Example

This example prints a string of 50 dashes on the screen.

```
print string(50, "-")
```





STRING Type

Used to declare a variable that can handle variable length character data, or to define a string that can hold a specific number of characters.

Remarks

Variables of string type can hold values that are up to 32767 characters in length.

To declare a fixed length string that holds only a specific number of characters, use the syntax

STRING*n

where n is the number of characters you want the string to hold. Fixed length strings are useful because variable length strings are not allowed within user defined type declarations.

See also

DIM, TYPE

Example

This example declares a string, assigns a value to it, and prints the value.

```
dim a as string
a = "Hello, world!"
print a
```



STRIPHIBIT Function

Used to get or set the current state of the "8th Bit Strip" toggle.

Syntax

STRIPHIBIT

or

STRIPHIBIT(onoff)

Remarks

There are two forms to the STRIPHIBIT function. The first form takes no arguments and simply returns the current setting. The second form sets the state of the toggle and returns the previous state.

In both the parameter and the return value, a nonzero value means the high bit is stripped from incoming characters. A zero value means the high bit is not stripped.

See also

DUPLEX

Example

This example shows how the STRIPHIBIT function can be used in a logon script to turn on the high bit strip.

```
dim oldstrip as integer
oldstrip = striphibit(on)
waitfor "UserID"
send "123456"
striphibit oldstrip
```



SUB Statement

Allows you to define your own subprograms that do not directly return a value to the caller.

Syntax

```
SUB name[(arg AS type[, arg AS type]...)]  
...  
END SUB
```

Remarks

name is the nome you assign to the subroutine.

arg is the name of a formal argument to the subroutine. Each argument must have an associated type declaration using the AS keyword.

You may define local variables within your user-defined subroutine. You can use STATIC declarations to preserve the value of individual variables across subroutine calls.

You can execute a sub-program using the CALL statement, along with any arguments you wish to pass to the sub-program.

See also

BYVAL, CALL, DECLARE, EXIT, FUNCTION, STATIC

Example

This example defines a simple subroutine and shows two ways of calling it.

```
sub test(i as integer)  
    print "in subroutine test: "; i  
end sub  
  
sub 1  
call sub(5)
```





SYSTEM Statement

Closes all open files and terminates a script.

Syntax

SYSTEM

Remarks

This statement immediately ends the script and closes the *QmodemPro* for *Windows 95* application.

See also

END, SHELL, STOP

Example

This example terminates *QmodemPro* for *Windows 95* after waiting for a key to be pressed.

```
print "press a key to exit...";  
while inkey = ""  
wend  
system
```



TAB Function

Returns the appropriate number of spaces to move the cursor to the specified column on the screen.

Syntax

`TAB(column)`

Remarks

This function returns the appropriate number of spaces to move the cursor to a particular column on the screen. Note that this function only works on the actual terminal screen.

See also

SPC

Example

This example shows how the TAB function might be used to print columnar data on the screen.

```
print "test"; tab(40); "column 40"
```



TAN Function

Returns the tangent of an angle.

Syntax

`TAN(angle)`

Remarks

angle is the measurement of an angle expressed in radians. You can convert radians to degrees by multiplying by $180/\pi$ (π is approximately 3.14159).

See also

ATN, COS, SIN

Example

This example prints the tangent of 1 radian.

```
print tan(1)
```



TIME Function

Returns the current date from the computer's internal clock.

Syntax

TIME

Remarks

The TIME function returns the current time in the form specified in Windows 95 Control Panel, Regional Settings section.

See also

DATE

Example

This example prints the current time according to Windows 95.

```
print "The time is now "; time
```




TIMEOUT Function

Used to either set or retrieve the current script timeout setting.

Syntax

TIMEOUT

or

TIMEOUT (seconds)

Remarks

When **TIMEOUT** is called without an argument, it returns the current script timeout value.

When **TIMEOUT** is called with a *seconds* argument, it sets the current timeout value to the specified number of seconds. In addition, it returns the previous timeout value.

If the timeout is set to zero, the timeout function is disabled.

The script timeout value applies to **INPUT**, **RECEIVE**, and **WAITFOR** commands.

See also

INPUT, **RECEIVE**, **WAITFOR**, **WHEN**

Example

This example shows how you might modify the timeout value during a logon script.

```
timeout 20
waitfor "what is your first name"
send "joe"
...
catch err_timeout
hangup
end
```



TIMER Function

Returns the number of seconds since midnight.

Syntax

TIMER

Remarks

TIMER returns the number of seconds since midnight as a real type value.

See also

TIMEOUT, WAITFOR, WHEN TIME

Example

This example prints the number of seconds since midnight, according to Windows 95.

```
print timer
```



TRAPSCREEN Statement

Used to capture the current terminal screen to a file.

Syntax

TRAPSCREEN filename

Remarks

This function takes a snapshot of the current terminal screen and appends it to the named file. A date and time stamp precedes the data on the screen.

See also

CAPTURE, SCROLLBACK

Example

This example shows how the TRAPSCREEN command might be used to capture some data from the remote host.

```
send  
waitfor "OK"  
trapscreen "snapshot.txt"
```





TYPE ... END TYPE Statement

Allows you to create a data structure (data type or user-defined type) consisting of one or more fields.

Syntax

```
TYPE typename
  field AS typename
  ...
END TYPE
```

Remarks

typename is the name of the new type.

fieldname is an element of the user-defined data type.

typename is the type of the field. It can be of type BYTE, INTEGER, LONG, REAL, or STRING*n (variable length strings are not permitted in user-defined types), or another user-defined type.

Variables of your new user-defined type are declared just like regular variables using the DIM statement. To access a field of your user defined variable, use a period after the variable name followed by the field name. See the example for an illustration of this.

See also

DIALOG, DIM



Example

This example declares a user-defined type called "daterec", declares a variable d of the type, assigns values to each of its fields, and prints the values of each of its fields.

```
type daterec
    day as integer
    month as integer
    year as integer
end type
dim d as daterec
d.day = 11
d.month = 10
d.year = 1993
print d.day, d.month, d.year
```





UCASE Function

Returns a copy of a string with all lower case characters converted to upper case.

Syntax

`UCASE(string)`

Remarks

string can be any string expression.

This operation is useful for making case insensitive comparisons of text. The LCASE function operates similarly, but converts the specified text to lower case.

See also

LCASE

Example

This example shows how the UCASE function converts all lower case characters in a string to upper case.

```
dim a as string  
a = "QmodemPro for Windows 95"  
print ucase(a)
```



Updatephoneentry Function

Updates a phonebook entry.

Syntax

`UpdatePhoneEntry(entry as PhoneEntry)`

Remarks

This function updates the phonebook entry specified by the entry parameter. The function returns True if the entry was updated successfully

See Also

AddPhoneEntry
RemovePhoneEntry





Example

This example changes all 805 area codes to 800 in the currently open phonebook.

```
dim count as integer
dim entry as phoneentry
count = 0
do while count < getphoneentrycount
  getphoneentry (count,entry)
  print "Changing Entry #";count; : ";entry.name;" : ";entry.areacode
  if entry.areacode = "805" then
    entry.areacode = "800"
    if updatephoneentry (entry) then
      print "Update Successful"
    else
      print "Update Failed"
    end if
  else
    print "Didn't find 805 in ";entry.name
  end if
  count = count + 1
loop
```




UPLOAD Function

Used to send files to a remote computer.

Syntax

`UPLOAD(filename, protocol)`

Remarks

This function initiates a file transfer to send files to a remote computer. At the time this command is executed, the remote computer must already have started the file transfer. If you are connecting to a bulletin board system (BBS) then your script should already have sent the command to the BBS that will start the file transfer.

protocol is one of the following predefined constants:

ASCII, XMODEM, XMODEMCRC, XMODEM1K, XMODEM1KG,
YMODEM, YMODEMG, ZMODEM, KERMIT

The first five protocols require a single file name in the *filename* parameter. This file name indicates the file to send.

The last four protocols can accept more than just one file in the *filename* parameter — separate multiple filenames with spaces.

The UPLOAD function returns zero if the file transfer was successful. If the transfer was unsuccessful, UPLOAD returns the error code describing the error. For a list of error codes see Chapter 4.

This function is identical to the SENDFILE function.

See also

DOWNLOAD, RECEIVEFILE, SENDFILE



Example

This example starts a file transfer of "c:\QMWIN95\test.dat" to a remote computer. It assumes that the remote computer is prepared to receive the file.

```
if upload("c:\QMWIN95\test.dat", Zmodem) = 0 then  
  print "file transfer ok!"  
end if
```



VAL Function

Returns the numeric value of a string.

Syntax

`VAL(string)`

Remarks

The VAL function begins evaluating a string at the first character, and scans it until the end of the string, or until a non-numeric character is reached, whichever comes first. It returns the value of the number found in the string, if any (if no number is found, zero is returned).

The VAL function does not support REAL numbers.

See also

STR

Example

This example converts the string containing the digits 4 and 2 to the decimal value 42.

```
dim a as string, i as integer
a = "42"
i = val(a)
print i
```



VERSION Function

Returns the *QmodemPro for Windows 95* version number as a string.

Syntax

VERSION

Remarks

In version 2.0 of *QmodemPro for Windows 95*, this function returns the string "2.0". You can always assume that the version numbers will be increasing with respect to the string comparison operators.

Example

This example prints the current *QmodemPro for Windows 95* version number.

```
print "QmodemPro for Windows 95 "; version
```



VIEWFILE Statement

Used to invoke the internal file viewer with a specified file.

Syntax

```
VIEWFILE filename
```

Remarks

This function brings up the internal file viewer with the named file loaded ready for viewing. Note that that script continues to run after the viewer is started.

See also

EDITFILE, VIEWPICTURE

Example

This example shows how the VIEWFILE command might be used to view the host mode user file.

```
viewfile "host.usr"
```





VIEWPICTURE Statement

Used to invoke the internal picture viewer with a specified file.

Syntax

VIEWPICTURE (filename)

Remarks

This function brings up the internal picture viewer with the named GIF, BMP, or JPEG file loaded ready for viewing. Note that that script continues to run after the viewer is started.

See also

EDITFILE, VIEWFILE

Example

This example shows how to use the VIEWPICTURE function to view a GIF picture in the download directory.

```
VIEWPICTURE ("C:\QMWIN95\DOWNLOADS\apicture.gif")
```



WAITFOR Statement

Used to wait for a particular sequence of characters to appear from the communications port.

Syntax

```
WAITFOR string [, timeout]
```

Remarks

WAITFOR suspends script execution until the specified string appears from the communications port. By default, the timeout value is whatever was last set by the TIMEOUT command. If a timeout value is specified, it is used instead of the current TIMEOUT value.

The case of letters is ignored when comparing incoming data against the specified string. However, terminal emulation escape sequences are not ignored.

If the character string does not appear within the timeout period, the ERR_TIMEOUT error is generated. This can be caught with the CATCH script statement to take corrective action.

See also

RECEIVE, WHEN

Example

This example shows how the WAITFOR command might be used in a script to log on to an online service.

```
waitfor "first name"  
send "john doe"  
waitfor "password"  
send "sesame"
```



WAITFOREVENT Function

Suspends a script execution until either an incoming call is answered or a key is pressed on the keyboard. It returns an integer, 1 if a key has been pressed, 2 if a call is connected.

Syntax

WAITFOREVENT

Remarks

This function is intended for use by the host mode when waiting for calls.

Example

This example tells you whether a key was pressed or a call was answered.

```
if autoanswer (getmodemname (0) ) then
    print "Autoanswer is now on."
else
    print "Failed to configure modem for autoanswer."
```




WEND Statement

Used to mark the end of a WHILE ... WEND statement. See the WHILE statement for more information and examples.



WHEN CLEAR Statement

Used to remove all when conditions, a set of when conditions, or a particular when condition.

Syntax

`WHEN CLEAR ALL`

or

`WHEN CLEAR name`

Remarks

`WHEN CLEAR ALL` clears all the currently active `WHEN` conditions.

`WHEN CLEAR name` clears all the `WHEN` conditions that have the name *name*.

After a `WHEN` condition is cleared, it is no longer active.

See also

`WHEN DISABLE`, `WHEN ENABLE`, `WHEN`

Example

This example shows how a `WHEN CLEAR` command might be used to remove a `WHEN MATCH` condition that is no longer needed.

```
when match "press enter" do send  
waitfor "main menu"  
when clear all
```



WHEN DISABLE Statement

Used to disable all when conditions, a set of when conditions, or a particular when condition.

Syntax

```
WHEN DISABLE ALL
```

```
or
```

```
WHEN DISABLE name
```

Remarks

WHEN DISABLE ALL disables all the currently active WHEN conditions.

WHEN DISABLE name disables all the WHEN conditions that have the name *name*.

A disabled WHEN condition can be reactivated with the WHEN ENABLE statement.

See also

WHEN CLEAR, WHEN ENABLE, WHEN

Example

This example shows how the when condition with the name "Enter" might be disabled if it is temporarily unnecessary.

```
when name "Enter" match "press enter" do send
```

```
...
```

```
when disable "Enter"
```





WHEN ENABLE Statement

Used to enable all when conditions, a set of when conditions, or a particular when condition.

Syntax

```
WHEN ENABLE ALL  
or  
WHEN ENABLE name
```

Remarks

WHEN ENABLE ALL enables all the currently active WHEN conditions.

WHEN ENABLE name enables all the WHEN conditions that have the name *name*.

See also

WHEN CLEAR, WHEN DISABLE, WHEN ENABLE, WHEN

Example

This example shows how the WHEN ENABLE command might be used to turn on a WHEN MATCH event that has been previously disabled.

```
when name "Enter" match "press enter" do send  
...  
when disable "Enter"  
...  
when enable "Enter"
```



WHEN Statement

Used set up a mechanism that will trigger a particular statement or set of statements when a certain event happens.

Syntax

```
WHEN {NAME name} {MATCH string | QUIET seconds | TIME time} DO
statements
or
WHEN {NAME name} {MATCH string | QUIET seconds | TIME time} DO
    statements ...
END WHEN
```

Remarks

There are three kinds of WHEN trigger events: MATCH, QUIET, and TIME.

A MATCH event watches the communications port for a particular sequence of characters and executes the statements associated with the WHEN statement when the sequence of characters is seen. Upper and lower case characters are considered the same when comparing characters.

A QUIET event watches the activity on the communications port and executes the statements associated with the WHEN statement when there is no activity for a certain amount of time. This is often used to send an Enter whenever there is no data received from the remote computer for, say, 10 seconds.

A TIME event watches the time and executes the statements associated with the WHEN statement when a particular time of day occurs. The time of day is specified in string format, so "2:00" would be 2:00am. Hours, minutes, and seconds are accepted separated by colons. An AM or PM indicator is also accepted.



See also

WAITFOR, WHEN CLEAR, WHEN DISABLE, WHEN ENABLE

Example

This example shows how the WHEN MATCH command might be used to skip past logon screens when waiting for a "main menu" prompt from an on-line service.

```
when match "press enter" do send  
waitfor "main menu"
```



WHILE ... WEND Statement

Repeats a series of statements while a given condition is true.

Syntax

```
WHILE expression  
  [statements]  
WEND
```

Remarks

expression is any numeric expression or variable that evaluates to a nonzero value (true) or zero (false). A WHILE ... WEND loop will execute so long as the expression is true, then when the expression becomes false, then passes control to the statement that follows the WEND.

The WHILE ... WEND provides an alternate syntax to the DO WHILE ... LOOP statement.

Each WHILE must have a corresponding WEND. Unmatched statements will cause an error message.

See also

DO ... LOOP, FOR ... NEXT

Example

This example shows how a WHILE loop might be used to print out the first 10 whole numbers.

```
dim i as integer  
i = 0  
while i < 10  
  print "i is "; i  
  i = i + 1  
wend
```



WINVERSION Function

Returns the current Windows 95 version as a string.

Syntax

WINVERSION

Remarks

This function returns the Windows 95 version as a string in the format X.Y. X is the major version number and Y is the minor revision number.

For example, Windows 95 version 4.0 would be reported as "4.0".

See also

VERSION

Example

This example prints out the current Windows 95 version number.

```
print "Currently using Windows 95 "; winversion
```




XONXOFF Statement

Used to change the state of the Xon/Xoff (software flow control) setting.

Syntax

```
XONXOFF onoff
```

Remarks

This function turns on or off Xon/Xoff (software flow control) from a script.

Example

This example shows how the XONXOFF command might be used to turn on software flow control in a logon script.

```
waitfor "UserID"  
send "123456"  
xonxoff on
```



XOR Operator

XOR performs a bitwise logical exclusive-or operation between its operands.

Syntax

```
op1 XOR op2
```

Remarks

op1 and op2 are logical expressions or numeric values of any integral type (byte, integer, or long integer).

This is the logical truth table for the XOR operator:

| a | b | a XOR b |
|---|---|---------|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

See also

AND, EQV, IMP, NOT, OR

Example

This example shows how the XOR operator is used to do a bitwise exclusive-or operation.

```
print "5 xor 6 is 3: "; 5 xor 6
```



Using Dialog Boxes

The *QmodemPro for Windows 95* script language allows you to create Windows 95 dialog boxes that you can use to gather information from the user, display status information, and so on.

There are two steps that are necessary to create dialog boxes using the *QmodemPro for Windows 95* script language:

- Create the dialog box template.
- Create a dialog box variable based on the template.

Creating a Dialog Box Template

A dialog box template declaration is very similar to a user defined type declaration. Here is the syntax for a dialog type declaration:

```
DIALOG dialogtype x, y, w, h
[CAPTION caption]
[FONT size, fontname]
[integer-field AS CHECKBOX title, id, x, y, w, h]
[integer-field AS COMBOBOX id, x, y, w, h]
[CTEXT title, id, x, y, w, h]
[DEFPUSHBUTTON title, id, x, y, w, h]
[string-field as EDITTEXT id, x, y, w, h]
[GROUPBOX title, id, x, y, w, h]
[integer-field AS LISTBOX id, x, y, w, h]
[LTEXT title, id, x, y, w, h]
[PUSHBUTTON title, id, x, y, w, h]
[integer-field AS RADIOBUTTON title, id, x, y, w, h]
[RTEXT title, id, x, y, w, h]
...
END DIALOG
```



Using Dialog Boxes

The `DIALOG` keyword is used to introduce a dialog box declaration. Following this keyword is the name of the dialog type. After the name are four numbers which define the position and size of the dialog:

| | |
|---|---|
| x | the horizontal position of the dialog relative to the top left corner of the screen |
| y | the vertical position of the dialog relative to the top left corner of the screen |
| w | the width of the dialog in "dialog units" |
| h | the height of the dialog in "dialog units" |

Notice that the width and height of the dialog are specified in "dialog units" — these are units that are based on the size of the font used in the dialog. A horizontal dialog unit is approximately $1/4$ of the average width of the characters in the font, and a vertical dialog unit is $1/8$ of the height of the characters in the font. Dialog units are specified in this way to avoid scaling problems when changing the font used for the dialog box.

Most dialog boxes will include a `CAPTION` statement that includes the title of the dialog box. If no `CAPTION` statement is included, the title will be blank. For example,

```
caption "My dialog box"
```

The `FONT` statement allows you to change the font used to display the dialog box. Any point size and face name may be specified here — the actual font used depends on the fonts installed in your Windows 95 system (some types of fonts, like the Script font, available elsewhere in Windows 95 are not available for use in dialog boxes). For example, to use 10 point Arial:

```
font 10, "Arial"
```



The remainder of the commands allowed in dialog box definitions define what are called "controls". Controls have some common features — each control must have a unique positive ID number or -1 if an ID number is not necessary, and must have a position and size defined by the x, y, w, h parameters. Specific features and requirements of each of the control types are discussed in the following paragraphs.

CHECKBOX

Defines a check box control that can be set either on or off. The title parameter defines the caption that appears to the right hand side of the check box itself. A positive ID number is required for this control type. The integer field associated with this control is 1 if the check box is checked, otherwise it is zero.

COMBOBOX

Defines a combo box control that offers a list of choices. A positive ID number is required for this control type. The integer field associated with this control indicates the number of the choice that was picked. To fill the combo box with choices, a dialog INIT procedure must be defined (see below).

CTEXT

Defines a centered-text control that displays text in the dialog box. The title defines the text to display. An ID number is not required for this control so it should be set to -1.

DEFPUSHBUTTON

Defines the "default" push button in the dialog (the default push button is the one that gets pressed when the user presses Enter). The title defines the text that will appear on the face of the button. A positive ID number is required for this control type. There should only be one DEFPUSHBUTTON in the dialog box template.



EDITTEXT

Defines a text edit control that allows the user to enter or edit text. A positive ID number is required for this control type. The string field associated with this control is the actual text that appears within the edit control.

GROUPBOX

Defines a shaded box control that can be used to group controls together visually. An ID number is not required for this control so it should be set to -1.

LISTBOX

Defines a list box control that offers a list of choices. A positive ID number is required for this control type. The integer field associated with this control indicates the number of the choice that was picked. To fill the list box with choices, a dialog INIT procedure must be defined (see below).

LTEXT

Defines a left-justified text control that displays text in the dialog box. The title defines the text to display. An ID number is not required for this control so it should be set to -1.

PUSHBUTTON

Defines a push button in the dialog. The title defines the text that will appear on the face of the button. A positive ID number is required for this control type. If the ID number is not IDOK or IDCANCEL, then a response function should be defined for the push button so that some action can be taken when the button is pressed (IDOK and IDCANCEL automatically cause the dialog box to close and return IDOK or IDCANCEL to the script).



RADIOBUTTON

Defines a radio button control that can be set either on or off, with the additional property that only one radio button in a dialog may be “on” at any time. The title parameter defines the caption that appears to the right hand side of the radio button itself. A positive ID number is required for this control type. The integer field associated with this control is 1 if the radio button is checked, otherwise it is zero.

RTEXT

Defines a right-justified text control that displays text in the dialog box. The title defines the text to display. An ID number is not required for this control so it should be set to -1.

After each of the desired controls is defined, the dialog box template is ended with the END DIALOG keywords.

A Word About Control IDs

The positive ID numbers used by many of the above control types are used internally by Windows 95 to manage the dialog box once it is displayed on the screen. For this reason, certain rules should be followed to ensure that the dialog box is displayed properly.

Some ID numbers with low values are reserved by Windows 95 and should not be used except where they are intended to be used. To avoid problems, a good place to start numbering your controls such as check boxes and edit controls is at number 101 and continuing upwards. ID numbers should never be used more than once in the same dialog box.

Buttons generally follow the same rules as other controls except for the special ID values IDOK (equal to 1) and IDCANCEL (equal to 2). When the IDOK or IDCANCEL values are used with a button, that button will automatically cause the dialog box to close and return the corresponding ID number. Many dialog boxes just have two buttons, Ok and Cancel, and these ID values provide a quick way to make those buttons work as expected. Buttons defined with other ID values will not automatically



cause the dialog box to close - to perform some action requires a dialog box response function (below).

Using Dialog Box Variables

Once a dialog box template has been constructed and defined, it is easy to make a dialog box appear on the screen. Suppose that a dialog box template called `MyDialog` has been defined. The next step is to define a variable based on that template:

```
dim d as MyDialog
```

The variable `d` now refers to a dialog box variable based on the template. To make the dialog box appear on the screen, use the `DIALOGBOX` function:

```
dim result as integer
```

```
result = dialogbox(d)
```

The variable `result` will contain the ID of the button used to close the dialog (this can be used to determine whether the user pressed OK or Cancel, for example).

Normally a dialog box will appear with all fields blank and all check boxes and radio buttons turned off. If you would like to "preload" the dialog box with certain information, just assign the data to fields in the dialog box just as with a user defined type:

```
dim d as MyDialog
```

```
d.name = "John Doe"
```

```
call dialogbox(d)
```

In the above example the name field will be preloaded with the string "John Doe". After the dialog box has been executed, the name field will contain whatever the user placed in the corresponding edit field on the screen.

Using Dialog Box Response Functions

For more flexibility in creating dialog boxes, *QmodemPro for Windows 95* allows "dialog box response functions" to be declared. These are



functions in the script program that are executed when certain events occur while the user is using the dialog box.

This is the syntax for a dialog box response function declaration:

```
FUNCTION dialogtype.{fieldname | ID(id)} AS INTEGER
```

```
***
```

```
END FUNCTION
```

Dialog box response functions can respond to the following types of events:

- The changing of a check box or radio button
- The changing of a combo box or list box selection
- The changing of an edit text field
- The pressing of a button or default button

To define a response function for the first three types of events, use the following form of the declaration:

```
FUNCTION dialogtype.fieldname AS INTEGER
```

```
***
```

```
END FUNCTION
```



This function will be called whenever the associated field changes. Each of the fields in the corresponding dialog variable are available to this function directly without the need to refer to the actual dialog variable.

For example, assume the following dialog box declaration:

```
dialog mydialog 50, 50, 150, 50
  caption "Test dialog"
  username as edittext 101, 20, 10, 110, 12
  guest as checkbox "Use GUEST account", 102, 20, 30, 110, 10
end dialog
```

Suppose we want to define a response function for the "guest" checkbox that automatically modifies the "username" field. Declare the response function like this:

```
function mydialog.guest as integer
  if guest then
    username = "Guest"
  else
    username = ""
  end if
end function
```

Now, whenever the "guest" button is turned from off to on, the "username" field will be automatically modified to contain the string "Guest". Whenever the "guest" button is turned from on to off, the "username" field will be cleared.

To define a response function for a button, you must use the following syntax for the response function declaration:

```
FUNCTION dialogtype.ID(id) AS INTEGER
...
END FUNCTION
```

This function will be called whenever the button associated with the given id is pressed.



Each of these dialog response functions returns an integer. This integer is used by the dialog manager in the following way: If the return value is nonzero, the dialog is closed and the `DIALOGBOX` function returns the value returned from the dialog box function. If the return value from a response function is zero, the dialog will not be closed.

Unlike a normal function, the return value from a dialog box response function is activated by assigning to the special variable `DIALOGRESULT` within the function. This is instead of assigning to the name of the function as in a regular user defined function.

The Dialog Init Function

There is one more special dialog response function that is called during dialog initialization before the dialog box is displayed. This dialog response function is declared like this:

```
SUB dialogtype.INIT
```

```
...
```

```
END SUB
```

This function can be used to initialize any fields within the dialog, or to fill a list box or combo box with items. Note that this is the first place during dialog box creation that you are allowed to fill a list box or combo box with items.

To fill a list box or combo box with items, use the `AddListBoxItem` or `AddComboBoxItem` subroutines like this:

```
call AddListBoxItem(HWindow, 102, "choice 1")
```

In this example, `HWindow` is a special variable available within a dialog box response function that refers to the Windows 95 dialog box. 102 is the ID value for the list box that we are working with, and the "choice 1" string is the string to add to the list box. The `AddComboBoxItem` works similarly.

Since the `HWindow` identifier used in this function is really a hidden data member of the dialog structure, the `AddListBoxItem` and



AddComboBoxItem subroutines can only be called from the dialog box INIT function or a dialog box response function.



Using DLL Functions

Microsoft Windows 95 provides special libraries of routines called dynamic-link libraries (DLLs) that let applications share code and resources. *QmodemPro for Windows 95* script language allows you to call functions that reside in external DLLs.

In order to call a function within a DLL from a script, the following rules must be observed:

The function must use the "stdcall" calling convention. This means that the name of the function is case sensitive and is not preceded by an underscore character. Also, the parameters to the function are pushed from right to left and are removed from the stack by the function, not the caller.

The function cannot have parameters passed by value other than INTEGER, LONG, STRING, or a pointer to a user defined type.

If the function returns a value, it must be of type INTEGER, LONG, or STRING.

Note that only 32-bit DLL functions can be called from *QmodemPro for Windows 95*. There are no facilities for calling 16-bit DLLs.

Declaring DLL Functions

DLL functions must be declared using the following syntax of the DECLARE statement:

```
DECLARE {SUB | FUNCTION} name LIB "libname" [ALIAS "aliasname"]  
[(arglist)] [AS type]
```

The keyword LIB indicates the name of the DLL in which the function resides. This keyword must be followed by a literal string that names the DLL (the .DLL extension should be supplied).

Normally, the function is expected to be in the DLL under the same name as the function is declared in the DECLARE statement. In some cases this may be undesirable, as in the case where the name of the function in the



DLL duplicates a reserved word or an identifier already declared in your script. In this case the ALIAS clause allows you to use a different name for the function in the script language DECLARE statement, but the alias name is the actual name of the function in the DLL.

Calling DLL Functions

Once a DLL function is declared, it can be called just like any other subroutine or function. For example, to use the MessageBox function, declare it as follows:

```
declare function MessageBox lib "user32" (hwnd as integer, message as string, caption as string, flags as integer) as integer
```

Once declared as above, you can use the MessageBox function like this:

```
dim i as result  
result = MessageBox(0, "Save changes?", "Question", MB_YESNOCANCEL)
```

The above example works provided that MB_YESNOCANCEL is defined to be the same as its value in the WINUSER.H file supplied with the Windows 95 SDK.

In some cases, you may not care about the return value of a DLL function. Instead of using a dummy variable to accept the return value, you can eliminate the return value entirely by declaring the DLL function as a SUB instead of a FUNCTION.

Parameters Passed to DLL Functions

The following specific rules are used when passing parameters to DLL functions:

- INTEGER and LONG —passed by value instead of reference.
- STRING —a pointer to a null terminated string is passed.
- user defined type —a pointer to the user defined type is passed.

When returning an INTEGER or a LONG from a DLL function, the standard parameter passing rules are used. When returning a STRING, the function is expected to return a far pointer to a null-terminated string. *QmodemPro for Windows 95* will automatically make a copy of the string for the return value.

3 - Script Examples

Everyone is bound to bear patiently the results of his own example.

Phaedrus



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Script Examples

The previous sections discussed the *QmodemPro for Windows 95* script language by explaining commands and their individual operation. This section takes a different perspective and reviews more extensive complete script examples. By discussing several scripts and their components it may be easier to follow the flow and operation of each command.

The following examples illustrate how the script language can be used in a number of applications.

Simple Logon

The first example is a simple logon script to a BBS system, generated by Quicklearn:

```
WAITFOR "s your first name? "  
SEND "Rick"  
WAITFOR "s your last name? "  
SEND "Heming"  
WAITFOR "                ]•[15D"  
SEND "mypassword "
```

Line 1 was generated after the BBS answered. It asked for the callers first name, and when we began typing the name it looked back on what it had been recording and found the last 20 characters were "s your first name? ".

Line 3 was also generated when we began typing the name, telling *QmodemPro for Windows 95* what name to send.

Line 5 was generated exactly like line 1, and contains the last 20 characters of the BBS line that asks for the caller's password. In this case, the last 20 characters are mostly spaces since the prompt (with ANSI color codes included) is:

```
Password ? [                ] [15D
```



The brackets are separated by 15 spaces and the last 5 characters represent the ANSI commands to move the cursor back to the position immediately following the first bracket. Regardless of the position of the cursor on the screen, the characters were received as indicated above, and the last 15 characters are those in the WAITFOR command in line 4.

Line 6 was generated when the password was typed and QuickLearn was then stopped.

The reply to the password prompt the text in quotes could be replaced by the system function LASTCONNECTPASSWORD which would allow the same script to be used with different Phonebook entries, provided they asked for the same information in the same order.

Mail Pickup

The following script is much more complex and makes use of additional features. It is used to call the MSI HQ BBS and download messages using the off-line mail reading door. The comments explain each line, and a discussion will follow.

```
' This script calls MSI HQ BBS and uploads and downloads mail
' using the QWK mail door online. It is designed to be run
' as a script linked to a phonebook entry since it does not
' dial the number.

' Set up a when on "-Pause-" to take care of the case where the
' sysop has a prelog screen with a pause in it.

when match "-Pause-" do send

    'Wait for name and password prompts and send the correct
    'responses.

waitfor "first name"
send lastconnectuserid
waitfor "password"
send lastconnectpassword

' Set up a number of match type whens to provide answers to various
' prompts and so on.

when match "]" to continue" do send
when match "]"ontinue" do send
when match "view the bulletin menu" do send "N"
```





```
when match "have new personal mail" do send "C"
when match "select [" do send "Z"

'a when quiet is used to press Enter whenever we don't get any
'characters for a particular amount of time (in this case, 10
'seconds).

when quiet 10 do send

'set the default timeout to 60 seconds - if we don't get what
'we're looking for the just abort (below in the "catch
'err_timeout" section).

timeout 60

'Make our way to the QWK main menu

waitfor "command"
send "M"
waitfor "command"
send "T"
waitfor "qwk command"

'Now we're at the QWK main menu. Check to see if we have a REP
'file to upload. If so, go ahead and send it up.

if exists (ConfigUploadPath+"\mustang.rep")then
send "U"
waitfor "now"
if upload (ConfigUploadPath+"\mustang.rep", Zmodem) = 0 then
del ConfigUploadPath+"\mustang.rep"
end if
waitfor "qwk command"
end if

'Now download the new mail. We will provide a timeout of 200
'seconds on the 'waitfor' that waits for the prompt as the end of
'the scan. That way, if this takes a long time we won't just
'abort.

send "D"
waitfor "would you like", 200

'Respond to the download prompt and download the file.

send "Y"
waitfor "now", 120
del ConfigDownloadPath+"\mustang,qwk"

call download (ConfigDownloadPath, Zmodem)

'Wait for wildcat to return to its menu and send the command to
log 'off.
```



Script Examples

```
waitfor "qwk command"
send "G"
send

'At this point, the script will end and return to the terminal
'mode.

end

'This is a catch clause for the main program body. It handles
'timeout errors that are not otherwise handled. If we get a
'timeout here, then there's not much we can do, so we just hang up
'and abort.

catch err_timeout
hangup
end
```

The script above automates the process of mail download from a BBS and handles several possible situations that could develop during the connection. It could easily be modified to handle additional situations, such as retrying the upload or download routines 3 times if they fail.

Other examples

There are a number of additional scripts included with your *QmodemPro* for Windows 95 package. Each is fully commented and provides additional examples of how the script language may be used.

One of the best ways to learn scripting is to load the examples into the debugger and follow the program flow as it takes place.

4 - Debugging

Experience is the name everyone gives to their mistakes.

Oscar Wilde



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Debugging A Script

As we indicated earlier, regardless of the simplicity of a script or the capabilities of the programmer, scripts are seldom written perfectly on the first attempt.

Compiler errors are caused by improper statements, syntax, or program constructs, and can usually be located and corrected fairly easily. In contrast, script code that compiles correctly but causes execution or run-time errors can often be difficult to locate. Even harder are logic errors that both compile and run properly, but produce incorrect results or flawed program flow. In these cases, a script debugger can be of invaluable assistance.

A compiled script language has advantages over an interpreted script language but the fact that its executable code is not connected directly to its source can make it difficult to relate a run-time error to the proper source statement.

Running a debug session

Starting the SLIQ debugger is done by selecting the **Scripts/Debug** menu choice, which displays the standard file selection dialog box. Once a script file is selected, it is recompiled regardless whether an executable **.QSX** file exists. During this compile session an additional debug info file is created in the scripts directory. The debug info file uses the extension **.QSD** and contains references to other files called by the script, line number offsets into the executable file, and type and location information on variables. The debug info file is used only by the debugger and may be erased after debugging is completed.

Once the compile session is complete the debug screen is displayed. It consists of two main sections, the source window and the watch window.

Both the source and watch Windows can be arranged and resized within the debugger window, but they cannot be placed outside of the window. If the watch window is not being used it may be minimized, but it cannot be closed.



The Source Window

The source window displays the original source script file. In the left hand margin of the window there is an area where two special symbols are displayed:

An arrow in the left hand column indicates that the current execution position of the script is stopped on the indicated line.

A red circle with a B inside it indicates that the associated line has a breakpoint set on it. Breakpoints are discussed below.

The Watch Window

The watch window is used to watch the values of variables while your script program is executing. If you watch a variable in this window using the VWatch button on the toolbar, its value will be updated in the window whenever it is modified by the script program.

The Step Button

The Step button causes the debugger to execute one script statement. If the script statement is a subroutine or function call, the debugger will stop on the first statement of the subroutine or function body.

The Jump Button

The Jump button is similar to the Step button, except that if the current statement calls a subroutine or function, the statements within the subroutine or function will automatically be skipped.

The Return Button

The Return button causes the debugger to execute statements continuously until the return from the current subroutine or function. This button is useful if you Stepped into a subroutine or function and meant to Jump over it.



The Go Button

The Go button continuously executes the script until the script ends or a breakpoint is encountered.

The Stop Button

The Stop button can be pressed at any time during script execution to cause the debugger to stop the script program at the next possible point. Note that the script may not stop immediately, but it will stop when the currently executing script statement has finished.

The Watch Button

The Watch button is used to select a variable to watch in the Watch window. If the cursor in the Source window is positioned over a variable name when the Watch button is pressed, that variable will automatically be watched. If not, a selection box will be presented that will allow you to either pick a variable to watch or type in a variable name.

Setting Breakpoints

To set a breakpoint in the Source window, click on the desired line using the right mouse button. To clear the breakpoint, click on the line with the right mouse button again. Note that the breakpoint indicator may not appear on the same line that you click on — it will appear on the next line of the source that contains an executable statement.



Compiler Errors

When the compiler detects an error compiling a script, it will automatically open up the *QmodemPro for Windows 95* editor and place the cursor at the position the error occurred. An error message will appear in a dialog box. The error messages that can occur are listed below in numerical order.

Error 1: Error opening input file

This error occurs when the script compiler cannot open an input file, whether it is the original file or an included file.

Error 2: Error creating output file

This error occurs when the script compiler cannot create the script output file for some reason.

Error 3: Syntax error

This error indicates a generic problem with the script program. Check with the documentation for the statement you are trying to use to make sure the statement is formed correctly.

Error 4: End of statement expected

This error can occur if you have placed extra information on a line that is not part of the statement on that line.

Error 5: Number too large

Integer numbers must be in the range -2147483648 to 2147483647.

Error 6: Error in floating point number

The script compiler has encountered a number which it determines should be a floating point number, but it is not in a correct format.



Error 7: String not terminated

A double quote character appears on the line without a closing double quote character.

Error 8: = expected

An equals sign is expected here. You may get this error if you misspell a script statement — the script compiler will not recognize the word and may assume that it is a variable you are trying to assign a value to.

Error 9: (expected

An open parenthesis is expected here. You may be trying to call a function with no arguments when it actually requires arguments.

Error 10:) expected

A close parenthesis is expected here. One of the common places where this error occurs is if you omit the CALL keyword when calling a subroutine, but try to place parentheses around the parameter list anyway. This error will occur at the end of the first argument.

Error 11: , expected

A comma is expected here. You may be trying to call a function with fewer parameters than it requires.

Error 12: Type mismatch

A type mismatch error indicates that you are using a variable or expression that is the wrong type for the expression expected there.

Error 13: THEN expected

The THEN keyword is expected after the condition in an IF statement.



Error 14: ELSE not allowed here

The ELSE keyword is only permitted after an IF or ELSEIF clause. If an ELSE clause for the current IF statement has already been encountered, another ELSE clause is not permitted.

Error 15: ELSEIF not allowed here

The ELSEIF keyword is not permitted without a preceding IF statement, and it is also not permitted after an ELSE clause.

Error 16: UNTIL or WHILE expected

The UNTIL or WHILE keyword is expected after a DO or LOOP keyword.

Error 17: LOOP not allowed here

The LOOP keyword is only permitted after a matching DO statement.

Error 18: EXIT DO not within DO ... LOOP

The EXIT DO statement must occur within a DO ... LOOP construct.

Error 19: EXIT FOR not within FOR ... NEXT

The EXIT FOR statement must occur within a FOR ... NEXT loop.

Error 20: DO, FOR, SUB, or FUNCTION expected

The EXIT keyword must be used with one of the listed keywords.

Error 21: Duplicate label declaration

The label you are trying to define has already been defined within the current function.

Error 22: LOOP expected

The LOOP keyword is expected at the end of a DO ... LOOP.

**Error 23: END IF expected**

The END IF keywords must follow an IF statement.

Error 24: WEND expected

Each WHILE statement must match up with a corresponding WEND statement.

Error 25: Variable expected

A variable is expected wherever an assignment occurs.

Error 26: WEND not allowed here

Each WEND statement must have a corresponding WHILE statement.

Error 27: Function expected

This error means that you tried to call a subroutine as a function. Since subroutines cannot return a value, this is not possible.

Error 28: Subroutine name expected

A subroutine name is expected after the CALL keyword.

Error 29: FUNCTION or SUB expected

Either the FUNCTION or SUB keyword is expected after the DECLARE keyword.

Error 30: Identifier expected

An identifier is expected here. This generally means that you are trying to declare an identifier but none was found.

Error 31: Type character illegal for SUB

Subroutine declarations, since they do not return a value, cannot have a type specification.



Error 32: AS expected

The AS keyword is expected here. Since you need an AS keyword, the preceding identifier needs a type declaration.

Error 33: Type name expected

A type name is expected after the AS keyword.

Error 34: Type specification illegal

A type specification is not allowed in the indicated case.

Error 35: Parameter list type mismatch

A function declaration and the corresponding definition must match in the number and type of arguments.

Error 36: Parameter list has fewer items than declaration

A function declaration and the corresponding definition must match in the number and type of arguments.

Error 37: Parameter list has more items than declaration

A function declaration and the corresponding definition must match in the number and type of arguments.

Error 38: Nested FUNCTIONS or SUBs not allowed

User defined subroutines and functions must not be declared without properly ending the previous subroutine or function.

Error 39: EXIT FUNCTION/SUB not allowed in main code

EXIT FUNCTION and EXIT SUB can only appear within a subroutine or function, not the main program body.



Error 40: AS not allowed here

This error is caused by using the AS keyword in a place where it is not permitted.

Error 41: Duplicate definition

The subroutine or function you are trying to define has already been defined once before.

Error 42: Duplicate identifier

The identifier you are trying to declare has already been used as a variable, constant, subroutine or function name, or type name.

Error 43: Constant expression required

A constant expression is required here. For example, when declaring an array, the array dimension must be a constant.

Error 44: Array variable expected

This error is most often caused by trying to use a subscript with a variable that has not been declared as an array.

Error 45: Integer expression required

An integer expression is required here. For example, when dimensioning an array, an integer value is required for the dimension value.

Error 46: Invalid array bounds

The lower bound of an array must be less than or equal to the upper bound.

Error 47: Reserved for future use

Error 48: File mode expected

One of the keywords INPUT, OUTPUT, APPEND, BINARY, or RANDOM must follow the FOR keyword in an OPEN statement.



Error 49: Reserved for future use

Error 50: Reserved for future use

Error 51: LEN expected

The LEN keyword is expected at the end of an OPEN statement.

Error 52: TO expected

The TO keyword is expected after the starting value in a FOR statement.

Error 53: NEXT expected

The NEXT keyword is expected after a FOR loop.

Error 54: NEXT not allowed here

The NEXT keyword must be preceded by a matching FOR statement.

Error 55: NEXT without FOR

You have used a NEXT keyword with a variable that does not match the variable used in the corresponding FOR keyword.

Error 56: CASE expected

The keyword CASE is required after the keyword SELECT.

Error 57: END SELECT expected

The END SELECT keywords must follow a SELECT CASE block.

Error 58: CASE not allowed after CASE ELSE

The CASE ELSE clause in a SELECT CASE statement must be the last case clause in the statement.

Error 59: ELSE or IS expected

If a CASE keyword in a SELECT CASE statement is not followed by an expression, it must be followed by an ELSE or IS keyword.

**Error 60: Statements not allowed here**

Statements are not allowed between a SELECT CASE statement and the first CASE clause. Also, statements are not permitted within a user defined type declaration or a dialog box template definition.

Error 61: =, <>, <, <=, >, or >= expected

In a CASE clause within a SELECT CASE statement, the keyword IS must be followed by one of the relational operators listed.

Error 62: END SUB or END FUNCTION expected

The END SUB or END FUNCTION keywords are expected here.

Error 63: EXIT FUNCTION expected

If the EXIT keyword appears within a function, it should be an EXIT FUNCTION statement.

Error 64: EXIT SUB expected

If the EXIT keyword appears within a subroutine, it should be an EXIT SUB statement.

Error 65: END FUNCTION expected

The END FUNCTION keywords must follow a function declaration.

Error 66: END SUB expected

The END SUB keywords must follow a subroutine declaration.

Error 67: Undeclared identifier

Identifiers must be declared before using them. This error is most often caused by using a variable before having a DIM statement that declares it.



Error 68: END TYPE expected

The END TYPE keywords must follow a user defined type declaration.

Error 69: Duplicate type definition

The type name you are trying to declare has already been declared.

Error 70: Type character not allowed

A type specification character is not allowed here.

Error 71: User defined type variable expected

You are trying to use the dot notation to access a field of a user defined type, but the variable to the left of the dot is not a user defined type variable.

Error 72: Field name expected

A field name must appear after a period when accessing a particular field of a user defined type.

Error 73: Dynamic strings not allowed in user defined types

Variable sized strings are not permitted in a user defined type declaration. Use a fixed length string instead.

Error 74: Parameter required

This error occurs when you call a function that requires more parameters than you have supplied.

Error 75: Default arguments not allowed in function definition (use DECLARE)

Default arguments to function can only appear within DECLARE statements, not the actual function body definition.

**Error 76: WHEN condition expected**

The WHEN condition must be one of MATCH, QUIET, or TIME.

Error 77: DO expected

The keyword DO is required after the condition in a WHEN statement.

Error 78: END WHEN expected

The END WHEN keywords must follow a WHEN statement.

Error 79: END DIALOG expected

The END DIALOG keywords must follow a dialog type declaration.

Error 80: Control type expected

You cannot declare fields of a normal type within a dialog box definition; all fields must be dialog box control types.

Error 81: Dialog variable expected

The DIALOGBOX function requires a variable declared based on a dialog box template as an argument.

Error 82: Field variable required with this control type

An associated field variable is required with the CHECKBOX, COMBOBOX, EDITTEXT, LISTBOX, or RADIOBUTTON control types.

Error 83: Field variable not allowed with this control type

An associated field variable is not permitted with the CTEXT, DEFPUSHBUTTON, GROUPBOX, LTEXT, PUSHBUTTON, or RTEXT control types.

Error 84: Dialog type expected

When declaring a dialog box response function, the name of the type used in the function name must be the name of a dialog box type.



Error 85: Control ID number expected

A control ID number is required when declaring a response function for an unnamed control.

Error 86: Dialog event must be a function returning integer

Dialog response functions must return an integer value to the dialog box manager so that it can tell whether or not to close the dialog box.

Error 87: Dialog init must be a subroutine

The dialog initialization function must be a subroutine — it cannot return a value to the dialog box manager.

Error 88: String required after ALIAS

A literal string is required after the ALIAS keyword in a DLL function declaration.

Error 89: String required after LIB

A literal string is required after the LIB keyword in a DLL function declaration.

Error 90: LIB only allowed with DECLARE

The LIB keyword is only allowed within a function declaration using DECLARE. You have probably omitted the DECLARE keyword.

Error 91: Function result must be numeric or string

Function results can only be a numeric or string type, not a user defined type.

Error 92: Fixed length string parameter not allowed

Fixed length string parameters to subroutines and functions are not permitted. Use a variable length string instead.

**Error 93: Function already defined**

The function you are trying to define has already been defined.

Error 94: CATCH not allowed here

A CATCH statement is only permitted at the end of a subroutine or function (or at the end of the main program body). A CATCH statement is not permitted after a CATCH ALL statement.

Error 95: Label "label" not declared in block

You have used the GOTO or GOSUB statement with a label that was not declared within the same statement block as the GOTO or GOSUB statement.

Error 96: Function "function" not declared in script

You have declared a function but have not provided a definition for the function.

Error 97: INPUT or OUTPUT expected

The keyword INPUT or OUTPUT or both is required after the FLUSH command.

Error 98: Positive control ID required for this control type

Control types such as combo boxes and edit text fields require positive control IDs. See the section on Using Dialog Boxes in chapter 2 for more information.

Error 99: ENTRY, GROUP, MANUAL, or SEARCH expected

One of the above keywords is required after the DIAL command.

Error 100: No local variables can be used in a WHEN block

Because WHEN statements are active until explicitly cleared, you cannot use any local variables of an enclosing procedure because the procedure may exit while your WHEN statement is still active. You may access



Compiler Errors

global variables (variables declared outside any subroutine or function) from within an WHEN block.





Runtime Error Messages

There are certain errors that cannot be detected at compile time and can occur only while running a script. These errors will pop up a box on the screen with the error message and terminate running the script. Some of these errors can be caught with the CATCH clause — these errors are noted below.

"Invalid opcode"

"Unexpected end of file"

Catch name: {cannot be caught}

These errors both mean that there was a problem with the script's .GSX file and the script probably needs to be recompiled.

"STOP encountered"

Catch name: {cannot be caught}

This error means that a STOP statement was encountered while running the script.

"RETURN without GOSUB"

Catch name: {cannot be caught}

This error means that a RETURN statement was encountered without a corresponding GOSUB statement. Be sure that the GOSUB and RETURN statements in your script are properly balanced.

"Math error"

Catch name: ERR_MATH

This error indicates that an arithmetic error has occurred (such as division by zero, taking the logarithm of a nonpositive number, and taking the square root of a negative number).



"Array subscript out of bounds"

Catch name: `ERR_ARRAYSUBSCRIPT`

An attempt was made to access an array element outside the bounds of the array.

"Library not found"

Catch name: `ERR_LIBRARYNOTFOUND`

An attempt was made to call a function in an external DLL that could not be loaded.

"Function not found"

Catch name: `ERR_FUNCTIONNOTFOUND`

An attempt was made to call a function in an external DLL and the named function could not be found.

"Invalid file number"

Catch name: `ERR_INVALIDFILENUMBER`

An attempt was made to access an invalid or unused file number in a file access statement such as `PRINT` or `GET`.

"Error opening file"

Catch name: `ERR_FILEOPEN`

The file named in an `OPEN` statement could not be opened (most likely, the file could not be found on disk).

"Path not found"

Catch name: `ERR_PATH`

This error occurs when a `CHDIR`, `CHDRIVE`, `MKDIR`, or `RMDIR` statement accesses a drive or directory that does not exist.



"Error renaming file"

Catch name: ERR_FILERENAME

An error occurred during a file rename operation - either the original file does not exist or the destination name is already in use.

"Communications timeout"

Catch name: ERR_TIMEOUT

The time limit has expired on a WAITFOR statement.

"WHEN ... GOTO executed from noncurrent scope"

Catch name: (cannot be caught)

If a WHEN statement contains a GOTO statement, then the destination of the GOTO statement can only be within the current scope (ie. within the same subroutine or function). Since a WHEN can be triggered at any time, this error can occur if you set up a WHEN statement with a GOTO within it, and then call another subroutine, but the WHEN statement is triggered while in the subroutine.

To avoid this situation, you can set up a global flag that the WHEN statement will set, and then test for this flag during your script. This prevents directly executing a GOTO from within a WHEN statement.

Appendix

The chief merit of language is clearness, and we know that nothing detracts so much from this as do unfamiliar terms.

Galen



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In this chapter

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ConfigInfo

The configuration information used by the system.

type ConfigInfo

//Connection options

This section contains the connection information.

ConfirmHangup as boolean

If *True*, issue a Confirm hangup dialog at exit. If *False*, no confirmation will be issued.

IgnoreCarrier as boolean

If *True*, ignores carrier detect report. If *false*, determines if warning at exit of *QmodemPro for Windows 95* when connected. Also determines if protocols abort on carrier.

//Path preferences

This section contains path information.

DownloadPath as string*256

The download path to be used.

UploadPath as string*256

The upload path to be used.

ScriptPath as string*256

The script path to be used.

RipPath as string*256

The RIPIcon path to be used.



//File preferences

This section contains information about file names to be used.

TrapFile as string*260

The name of the trap file to be used.

CaptureFile as string*260

The name of the capture file to be used.

LogFile as string*260

The name of the log file to be used.

ScrollbarFile as string*260

The name of the scrollbar file to be used.

PrintFile as string*260

The name of the print file to be used.

LogAutostart as boolean

If True, log autostart is enabled. If False, log autostart is disabled.

LogDateStamp as boolean

If True, log is date stamped. If False, log is not.

//Protocol preferences

This section contains information about protocol preferences.

ProtocolOverwrite as boolean

If True, protocol overwrite is enabled. If False, protocol overwrite is not enabled.

ProtocolSavePartial as boolean

If True, partial downloads are saved. If False, partial downloads are deleted.

ProtocolAutoIncrement as boolean

If True, autoincrement is turned on. If False, autoincrement is turned off.

ProtocolShowPictures as boolean



If True, the picture viewer is turned on during downloads. If False, picture viewer is turned off.

ProtocolSystemDate as boolean

If True, files are marked with the system date stamp.

//Zmodem options

This section contains option information specific to Zmodem.

ZmodemCrc32 as boolean

If True, CRC 32 is enabled. If False, CRC 16 is enabled.

ZmodemAutostart as boolean

If True, the status of the Autostart option is on. If False, Autostart is turned off.

//Kermit options

This section contains information about Kermit options used by the system.

KermitMaxPacketLen as integer

The maximum packet length possible.

KermitWindows as integer

The number of sliding windows.

KermitPadCount as integer

The pad count.

KermitPadChar as integer

The number of pad characters used.

KermitTerminator as integer

The terminator used by Kermit.

KermitControlPrefix as integer

The control prefix used by Kermit.



`KermitRepeatPrefix` as integer

The repeat prefix used by Kermit.

`KermitHibitPrefix` as integer

The hibit prefix used by Kermit.

`KermitCheck` as integer

The error detection method to be used.

`//Ascii options`

This section contains information about ASCII option settings.

`AsciiUpCr` as integer

Determines the ASCII upload carriage return handling used.

`AsciiUpLf` as integer

Determines the ASCII upload line feed handling used.

`AsciiDownCr` as integer

Determines the ASCII download carriage return handling used.

`AsciiDownLf` as integer

Determines the ASCII download line feed handling used.

`AsciiEolChar` as integer

The character used by ASCII, identified as the last character in a line.

`AsciiPaceChar` as integer

Character used by ASCII to determine "send next line".

`AsciiInterChar` as integer

Number of milliseconds to pause between sending characters.

`AsciiInterLine` as integer

Number of milliseconds to pause between sending lines during upload.



AsciiUploadTranslate as boolean

If True, enables use of a translate table during upload. If False, translate table is turned off.

AsciiUploadPace as boolean

If True, pace character is sent. If False, pace character is not sent.

AsciiUploadBlanks as boolean

If True, adds a space to blank lines. If False, no space is added.

AsciiUploadTabs as boolean

If True, sets tabs for 8 spaces. If False, the literal tab character (09 decimal) is set.

AsciiUploadDisplay as boolean

If True, allows file to be viewed while uploading. If False, no display is viewed during upload.

AsciiDownloadTimeout as integer

Amount of time to wait for download characters before terminating.

AsciiDownloadTranslate as boolean

If True, use of translate table during download is turned on. If False, no translate table is used.

AsciiDownloadStrip as boolean

If True, the 8th bit is ignored. If False, 8th bit is sent.

AsciiDownloadDisplay as boolean

If True, allows file to be viewed while downloading. If False, no display is viewed during download.

//Desktop options

This section contains information about desktop options.

DesktopPatternIndex as integer

The index number of the pattern used for the desktop.

DesktopPatternForeground as long



Internal Data Structures

The RGB (color) used for the desktop foreground.

`DesktopPatternBackground` as long

The RGB (color) used for the desktop background.

`DesktopPatternBits(0 to 7)` as word

The bits that make up the pattern.

`DesktopWallpaper` as string*260

Name of file used for the desktopwallpaper.

`DesktopWallpaperCenter` as boolean

If True, wallpaper file is centered on the screen. If False, wallpaper is tiled.

`TermScroll` as integer

If True, new data is scrolled on to the screen. If False, the screen is repainted when new data enters.

`TermFont` as integer

The selected terminal font. This is the same as the Font option in Tools/Options/Desktop menu option.

`TermUpdate` as integer

Determines the method a screen is updated as data is entered. Same as Tools/Options/Desktop/Update menu command.

`InternationalKeys` as boolean

If this option is turned on, the operation of keyboard input in *QmodemPro for Windows 95* is changed to better handle international keys.

`LargeToolbars` as boolean

If True, large toolbars are displayed. If false, small toolbar buttons are displayed.



//Phonebook options

This section contains default phonebook information.

DefaultPhonebook as string*260

The name of the default phonebook.

PhoneAtStartup as boolean

If True, the default phonebook will be displayed at startup. If False, no phonebook will be loaded.

PhoneDisplay as integer

Determines which Phonebook display option is active.

PhoneColumns(0 to 11) as integer

The width of each column when report view mode is on.

PhoneAutoArrange as boolean

If True, icons in phonebook are arranged automatically. If False, icons must be manually arranged.

PrintFields(0 to 16) as integer

Phonebook fields to be included during a "Print Phonebook" command. This is terminated with -1 on last field.

DefaultAreaCode as string*10

System area code.

DefaultCountryId as integer

Name of the country that your system is located in.

DefaultCountry as integer

Identifying number of your country.

PhonebookDefaultDevice as string*64

Name of the modem to be used in phonebook entries by default.



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PhonebookAutoSave as **boolean**

If **True**, Phonebook changes are saved automatically. If **False**, changes must be manually saved.

DelayAfter as **integer**

Number of seconds between dialing entries in the dialer.

//Macro options

This section contains information about macros.

DefaultMacroFile as **string*260**

Name of the macrobar used as the default.

MacrobarEnabled as **boolean**

If **True**, macrobar is turned **on**. If **False**, macrobar is turned **off**. Determines the current macrobar status.

//Emulation options

This section contains emulation option information.

SelectTab as **boolean**

Defines tab spacing. Same as Tools/Options/Emulations/Keyboard/Options menu command.

Use101Keyboard as **boolean**

Determines whether keyboard used by default is 101-key. Same as Tools/Options/Emulations/Keyboard/Options menu command.

DefaultEmulation as **integer**

The default emulation used by the system.

RipTrueType as **boolean**

If **True**, use of TrueType fonts is turned **off**. If **False**, TrueType fonts is turned **on**. This applies only to the RIP emulation.

EmulationAnsiMusic as **boolean**

If **True**, ANSI music is turned **on**. If **False**, ANSI music is turned **off**.

Duplex as **boolean**



If True, duplex is set to full. If False, duplex is set to half.

//Translation table

This section contains information about translation tables.

DefaultTranslateTable as string*260

Name of the translation table to be used as the default.

//Direct connection

This section contains information about direct connections.

DirectConnectDevice as string*30

The device (COM1, COM2, etc.) used for a direct connection.

DirectConnectBaud as integer

The baud rate used for direct connections.

DirectConnectParity as byte

The direct connection parity setting.

DirectConnectData as byte

The direct connection databits (7 or 8).

DirectConnectStop as byte

Determines what is sent as a direct connect stop byte.

//File clipboard

This section contains information about the file clipboard options.

FileClipboardSeparator as integer

The type of send separator used by the File Clipboard.

FileClipboardLongFileNames as boolean

If True, use of long filenames is enabled. If False, option is disabled.



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`FileClipboardRemoveItems` as `boolean`

If True, filenames are removed from the file clipboard after they are sent to the terminal.

`//Sounds`

This section contains information about sound options.

`EnableSounds` as `boolean`

If True, sounds are enabled. If False, sounds are disabled.

`//International`

This section contains information about international issues.

`AnsiDialogInsteadOfOEM` as `boolean`

If True, sets ANSI dialog on. If False, ANSI dialog is turned off.

`//General information`

This section contains general owner information.

`Serial` as `string*8`

The registration number of the application.

`LicenseName` as `string*50`

Name of the licensed owner.

`LicenseCompany` as `string*50`

Name of the licensed company owner.

end type

| Hex | The values for KermitCheck |
|------|----------------------------|
| 0000 | Checksum 1 |
| 0001 | Checksum 2 |
| 0002 | CRC |



| Hex | The values for AsciiUpCR |
|------|--------------------------|
| 0000 | Send CR |
| 0001 | Add LF after |
| 0002 | Strip CR |

| Hex | The values for AsciiUpLF |
|------|--------------------------|
| 0000 | Send LF |
| 0001 | Add CR before |
| 0002 | Strip LF |

| Hex | The values for AsciiDownCR |
|------|----------------------------|
| 0000 | Send CR |
| 0001 | Add LF after |
| 0002 | Strip CR |

| Hex | The values for AsciiDownLF |
|------|----------------------------|
| 0000 | Send LF |
| 0001 | Add CR before |
| 0002 | Strip LF |



| Hex | The values for TermUpdate |
|------|---------------------------|
| 0000 | Character |
| 0001 | Line |
| 0002 | Black |

| Hex | The values for PhoneDisplay |
|------|-----------------------------|
| 0000 | Large icon |
| 0001 | Small icon |
| 0002 | List |
| 0003 | Report |

| Hex | The values for DirectConnectParity |
|------|------------------------------------|
| 0000 | No parity |
| 0001 | Odd parity |
| 0002 | Even parity |
| 0003 | Mark parity |
| 0004 | Space parity |

| Hex | The values for DirectConnectStop |
|------|----------------------------------|
| 0000 | 1 |
| 0001 | 2 |



| Hex | The values for FileClipboardSeparator |
|------|---------------------------------------|
| 0000 | Carriage return |
| 0001 | Line feed |
| 0002 | Comma |
| 0003 | Space |
| 0004 | Colon |
| 0005 | Semicolon |
| 0006 | Tab |



| Case | Value for PrintField |
|------|----------------------|
| 0 | Service Name |
| 1 | Primary Number |
| 2 | Alt # 1 |
| 3 | Alt # 2 |
| 4 | Alt # 3 |
| 5 | Alt # 4 |
| 6 | TAPIDevice |
| 7 | UserID |
| 8 | Password |
| 9 | Notes File |
| 10 | Emulation |
| 11 | Script File |
| 12 | Macro File |
| 13 | Protocol |
| 14 | Translate Table |
| 15 | Lastcall Date |
| 16 | Lastcall Time |
| 17 | Total Calls |



PhoneEntry

Standard user defined phone entry used by QmodemPro for Windows 95

type phoneentry

NAME as string*28

The system name.

AREACODE as string*10

The area code for the system.

TAPIDEVICE as string*40

The name assigned to the modem by Windows 95.

NUMBER (1 to 5) as string*20

The system phone numbers.

USERID as string*31

The user name for the entry.

PASSWORD as string*26

The password used for the entry.

MEMOFILE as string*260

Any attached memo for the entry.

SCRIPTFILE as string*260

Name of script attached to the entry.

MACROFILE as string*260

Macrofile attached to the entry.

RIPICONDIR as string*256

Directory containing the RIP icons.

ICONRESPATH as string*260

The path to the icon resource file.

TRANSLATETABLE as string*260

Translation table to be used for the entry.

COUNTRYID as long

Index of the country being called.

COUNTRYCODE as long



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The country code being dialed from.
EMULATION as long

The emulation to be used for the connection.
PROTOCOL as long

Download/upload protocol assigned to the entry.
RETRIES as long

Number of dial retries to attempt before aborting
CONNECTS as long

Number of times a connection has been made with this phonebook entry.
UPLOADS as long

Number of uploads sent to the system.
DOWNLOADS as long

Number of downloads received from the system.
LASTCONNECT as systemtime

The last time that the entry was successfully dialed.
ICONRESID as long

Index of the icon in the resource file pointed to by IconResPath.
CONNECTTYPE as long

Defines the connection as voice, data, or telnet.

end type

| Hex | The value for ConnectType |
|------|---------------------------|
| 0000 | Data |
| 0001 | Voice |
| 0002 | Telnet |



SearchRec

Results of a FindFirst/FindNext. The results are stored in SearchRec.

type searchrec

Attributes as long

The attributes of the file (read-only, system, hidden, archive, etc.)

CreationTime as DateTime

Date and time the file was created.

LastAccessTime as DateTime

The last time the file was accessed.

Last WriteTime as DateTime

The last time the file was changed.

FileSize as long

The actual size of the file.

FileName as string*260

The file name.

AlternateFileName as string*14

The alternate file name.

end type



SystemTime

The time as determined by the system.

type SystemTime

Year as word

The current year.

Month as word

The current month.

Dayofweek as word

The current day of the week.

Day as word

The current day of the month.

Hour as word

The current hour.

Minute as word

The current minute.

Second as word

The current second.

Milliseconds as word

The current millisecond.

end type



| Hex | The value for DayOfWeek |
|------|-------------------------|
| 0000 | Sunday |
| 0001 | Monday |
| 0002 | Tuesday |
| 0003 | Wednesday |
| 0004 | Thursday |
| 0005 | Friday |
| 0006 | Saturday |





Reference Tables

Color Statement

Below is a list of color values used for defining terminal colors.

| Value | Color | Value | Color |
|-------|--------|-------|---------|
| 0 | Black | 8 | Silver |
| 1 | Maroon | 9 | Red |
| 2 | Green | 10 | Lime |
| 3 | Olive | 11 | Yellow |
| 4 | Navy | 12 | Blue |
| 5 | Purple | 13 | Fuschia |
| 6 | Teal | 14 | Aqua |
| 7 | Gray | 15 | White |

Protocols

Protocols defined and supported by QmodemPro for Windows 95 are listed below.

| | | | | |
|-------|--------|-----------|-----------|---------|
| ASCII | KERMIT | XMODEM1K | XMODEM1KG | YMODEMG |
| BPLUS | XMODEM | XMODEMCRC | YMODEM | ZMODEM |



Emulations

The emulation argument uses the following predefined constants:

| | | | |
|---------------|----------|--------|---------|
| ADDSVP60 | HEATH19 | TVI950 | WYSE60 |
| ADM3A | IBM3101 | TVI955 | WYSE75 |
| ANSI | IBM3270 | VIDTEX | WYSE85 |
| AVATAR | RIPSCRIP | VT100 | WYSE100 |
| DEBUGASCII | TTY | VT102 | WYSE185 |
| DEBUGHEX | TVI910 | VT220 | |
| DG100 | TVI912 | VT320 | |
| DG200 | TVI920 | VT52 | |
| DG210 | TVI922 | WYSE30 | |
| HAZELTINE1500 | TVI925 | WYSE50 | |



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